SUMERIAN

COMPARATIVE GRAMMAR

By

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SUMERIAN

Part One

COMPARATIVE GRAMMAR

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“Little is known of the early history of Sumer or of the origins of the Sumerians. It is still uncertain whether they were the aboriginal inhabitants of Mesopotamia or whether they came from outside. It seems however more probable that they were early immigrants, [and] that they entered Mesopotamia in the first half of the 4th millennium BC.”

EVERYMAN ENCYCLOPEDIA

“Il sumerico, la lingua della più antica scrittura, era la lingua di un popolo che abitava à sud di Babilonia, vicino al golfo Persico. Il sumerico è ben noto da numerosi testi di varia natura. Si conoscono anche dialetti sumeri. Nonostante queste condizioni particolarmente favorevoli, nessuno finora è riuscito ad apportare seri argomenti in favore della sua parentela con una qualsiasai lingua.”

GEORGIEV

PREFACE

My interest in Sumerian arose from the possibility that it might be the language of the Minoan inscriptions in Linear A. This was not to be the case. Sumerian nevertheless proved to have connections with Linear A that could hardly be accidental. I eventually came to the conclusion that Sumerian, though distinct from Linear A, was related to it, and came from a closely similar African source. Thus it became relevant to the interpretation of the Cretan inscriptions. The nature of this relevance is explained at the end of the grammar. I also found unexpected similarities to Māori.

Coming to Sumerian cold, with no previous knowledge, I greatly appreciated the help of Peter Sullivan, who had studied both Egyptian and Sumerian at Auckland University, and assisted me in my initial attempts to come to grips with this fascinating but difficult subject. I also owe a debt of gratitude to Rowan Gibbs, who has aided me for many years in obtaining books on this and other abstruse subjects. Matthew Carter has also contributed, particularly in finding information on the internet.

Books by Hayes, Bord and Poebel have formed the basis of the account of Sumerian used for the comparative treatment which follows. But other authorities have been consulted where necessary. I am nevertheless aware that my knowledge is far from complete. Time will remedy that, I hope.

For Niger-Congo I have referred constantly to the reconstructive work of Westermann and his pupil Mukarovsky, also to the more recent reconstructions of Stewart. These are the giants on whose shoulders I have stood. Of the Bantu scholars Meeussen has always had priority. But I have not hesitated to draw on others, modern and not so modern, when they appeared useful.

John Chadwick's advice to go to the protolanguages lead me to the above Niger-Congo authors. It has served me well. It has simplified my task and made it approachable. Westermann has the great virtue that not only does he give Stammwörter, ie reconstructed forms, but also cites the comparative examples on which the reconstructions are built. Although he wrote in the twenties and used an archaic phonetic system, he remains valuable above all others. He pioneered Niger-Congo comparisons.

Chadwick's dictum that meaning takes priority over form is harder to appreciate. But I consider that he was right about this. That is why the Sumerian Comparative Dictionary (Part Two, a separate volume) is organised under semantic headings, contrary to Westermann's more phonetic approach.

Graham Campbell-Dunn

Christchurch, NZ, January 2009

INTRODUCTORY REMARKS

Poetic tradition has it that the Sumerians came by sea from the South (Landsberger 1944 : 434). What is the evidence? Landsberger mentions the Island of Dilmun in the Persian Gulf as a mythical Sumerian paradise. This is known to be Bahrein and adjacent areas. It is unlikely to have been colonised from Mesopotamia. Sumerian texts also mention Magan and Meluhha. Magan (cf N-C Maka, N-S Mekan) is in southeastern Arabia (not far from Dilmun), and is known for its beehive stone tombs (c 3000 BC), which look African. Meluhha is the Indus valley civilisation, with which the Sumerians traded. The Indus also used a pictographic script, which differs from that of Sumeria however.

Let us take the name Ubaid, a city in Sumeria. (Compare El Obeid in the Sudan, also Dubai [>*ubai] in the Persian Gulf). The root of the word *ba* means "swamp, river bank" in Niger-Congo (Nilo-Saharan). The *U-* is a Niger-Congo vocalic prefix. It is cognate with African names such as Bai (Adamawa-Eastern) and Pai (Bantu). There is a West Atlantic name Uboi (Kobiana) which is related (*a* > *o*). Kuwait (in the gulf) can be connected too (prefix *(k)u-* + *wa* < *ba*). Other Sumerian placenames with this prefix include Unu (Uruk) and Uri (Ur). Sacleux (1910) treats this vocalic prefix, in Rundi, Ganda, Nyoro and Kerewe, as a grammatical element analogous to the "article". Bantu however lacks the old postposed article/demonstrative *–la* which survives in many Niger-Congo languages.

Further all of these words with the root *bai are derived from Bali (West Africa), Bari (East Africa), with loss of the *–l- /- r-*. For the formation compare Mari (Sumeria), related to African Mali (W. Sudan); Mari = Kikaranga (Rhodesia). Warka (Sumeria) may be from *Bari-ka, (L. Bari-ba in Zimbabwe) ; Cyrenaica has Barca, (Greece has Vari). Also I think So-mali (The Horn), with –ma-. Sumeria has a river called Karun, a name used also for rivers in both East and West Africa. With Sumerian Fara, compare African Bara-si (Kenya). Also Parsee (< Bari-si). PWS has a root *bà* (*bara*) "broad, wide and flat". In the vicinity of Sumeria is the Zagros Range, which must be from PWS *gia* "blood". This root often goes to *dza*, *za* and is used of live animals in African languages. PCS *za* "flesh, animal". Wild animals were caught on these mountain ranges.

In any case we have a trail that leads back to Africa, back through the African language groups : Niger-Congo, Nilo-Saharan (from which Niger-Congo came), and Afro-Asiatic (an

offshoot of Niger-Congo-Nilo-Saharan. In Sumerian *o* is supposedly written *u*. Perhaps it was really Somer(i) = Somali (*Sama). The Somali language is Afro-Asiatic.

Sumerian divine names confirm this conclusion : Utu (root *tu), Abu (root *bu), Bau (compare Bau-le, Barue), Enki (with e-prefix and –n- = *ni) , Inanna (with i-prefix), Nanna (without prefix). Niger-Congo nouns may omit the prefix.

As for the hypothetical Proto-Euphrateans, the predecessors of the Sumerians, they too (if they were real) were African. The vocabulary used as evidence for their existence, can, as we shall see, be shown to be African. Examples in Landsberger (1944). Some of the shorter Proto-Euphratean words are close to Sumerian determinatives.

As Sumerian statues show the Sumerians wore the false beard, African symbol of office, and are depicted with large inlaid eyes of shell, as seen in African (and Malayo-Polynesian) wooden images. More important figures are larger as in Africa. The style of Sumerian statues (grooves etc) indicates wooden prototypes.

Like the statues of Minoan Crete, those of Sumer are small, with large heads (African) and conical bodies. The wall paintings of Mari (cf B-C Mari) have been compared with those of prehistoric Crete. With Mari also compare Mallia (a Cretan palace).

Very early Sumerian huts are circular and made of reeds. Like similar ancient African dwellings they are built over holes in the ground (Hassuna, Frankfort 1956 : Fig. 2). Some Africans still live in pits in the ground. At Hassuna were found bone sickles with flint teeth, used for harvesting emmer and barley (Frankfort 1956 : 30). These signs of civilisation, perhaps as early as 5000 BC, are found also in North Africa and the Fayyum. They extend through to Palestine. Emmer cultivation has been seen as evidence for Africans in early India.

Potts (1997 : Ch. 10) mentions primitive forms of *sati* (p. 222) –disputed- , pithos burial, shaft burial (p. 231), mound burial, and the belief that the dead (Udugs etc) were a threat to the living. All of these concepts were African. They are found also in the early Mediterranean.

Joan Oates (cited by Potts) imagines that early Sumeria included different ethnic groups, speaking different languages and following different subsistence strategies. Her vision is like Pallottino's concept of the formation of the Etruscans (see Potts 1997 : 55). Kramer's attempt to bring the Sumerians from the Caucasus is now unfashionable. But until the linguistic puzzle is solved we all remain in the dark. This book tackles the language problem.

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SUMERIAN SCRIPT

"Akkadian is a Semitic language, but Sumerian is a language isolate of a very different type, and with a very different phonemic inventory. The values we give to cuneiform signs in Sumerian texts are based on Akkadian values and on ancient glosses...we view Sumerian phonology through Akkadian glasses...Akkadian glasses...made by Sumerian opticians".

COOPER

"C'est certainement, nous l'avons dit, aux Sumériens qu'on doit la découverte de l' écriture. L'invention dut se produire aux environs de l'an 3000, plutôt avant qu' après. Ce ne fut certainement pas du premier coup que le système de signes fut définit et adopté. A Uruk, on en utilisa d'abord quelque 900. A Djemdet Nasr, après simplification, il n'en restait plus que 400. L'inspiration en était pictographique, c'est à dire qu'on représentait le monde visible : l'homme et son habitation, le règne animal, mais aussi végétal, l'outillage, l'armement. Cependant on devait s'efforcer de simplifier encore : du pictographique on passa au linéaire, enfin au cunéiforme, appelé ainsi (du latin *cuneus*) pour rappeler les signes en forme de coins, gravés sur l'argile molle de tablettes. Avec l'écriture, l'histoire allait pouvoir exister, dès l'instant où l'on pouvait fixer sur un bloc de terre ou sur une plaque de pierre des noms de rois, de villes ou de dieux."

PARROT

"Le nombre de signes datant de l'époque la plus ancienne (période d'Uruk, IVe millénaire av. J.-C.) est très important ; on l'estime à deux mille et peut-être plus. Il semble bien que le sumérien, à son origine, ait tendu vers un système graphique ayant pour principe << un son – un signe >>, ce qui entraînerait qu' il y ait eu plus de signes que de mots. " "Leur plus grande innovation fut sans doute l'adoption de valeurs purement phonétiques pour des signes dont la lecture était à l'origine le nom même de l'objet représenté".

BORD

As Sumerian is possibly the earliest known language recorded in writing it has a special importance for comparative language studies. But the early pictographic script is problematic and polyvalent in both sound and meaning. Lexical items were generally represented ideographically. But grammatical elements such as prefixes and suffixes were usually shown phonetically, as syllables. Thus the ARROW pictograph (phonetic *ti*) signifies both "arrow"

and “life”, but also the syllable *ti* in compounds. Similarly a STAR (phonetic *an*) signified “heaven”, “sky”, but also *diĝir* “god”. Signs might be combined, or inscribed within each other (Michalowski in Daniels & Bright eds. 1996 : 34).

Determinative signs were often added “as prefixes”, and phonetic complements attached “as suffixes” (Mallowan 1965 : 62), to clarify the meaning. Michalowski in Daniels & Bright eds. (1996 : 35) mentions *Ú.NAGA.GA.MUŠEN* for *uga* “raven”, with a basic sign *NAGA* bracketed by glosses *ú* and *ga,* followed by the BIRD classifier *MUŠEN.* These “prefixes” and “suffixes” were once full words, and so spelt separately. Scholars apply numeric subscripts to homophonous syllables to distinguish them : du_2 “to make”, du_3 “to open”, du_4 “to be beautiful”. The accent marks placed above Sumerian vowels are similarly used. They do not indicate actual accents, but various pictographs. The pictographs themselves are often stylised, opaque and unrecognisable.

Homophones may be distinguished by different appropriate pictographs. But full consistency is never achieved. The “grammatical elements” had a less obvious concrete meaning, and favoured the passage from pictorial signs to a phonetic (syllabic) script. The grammatical elements were more obviously monosyllabic, and easier to analyse phonetically. Ideographic “words” were apparently more confusing and defied analysis.

“Particularly when writing grammatical morphemes, Sumerian prefers not to use CVC signs” (Hayes 2000 : 17), substituting CVC by two signs, CV-VC. His example is */nir/* written as *ni-ir*. This practice can be explained if we hypothesise that CV-VC represents an earlier CVCVC, ie that all syllables once began with a consonant : (C)V, (C)VC. The assumption is that the grammatical elements were originally basically CV, not V, (or CVCV not VCV). In the example given, we might propose that *nir* was once reduplicated : *ni-ni-, and that *r* is reduced from *ri ; the original word was therefore *ni-ni-ri. The script thus becomes coherent. Where Sumerian uses CV-VC sequences, if our hypothesis is right, a stress fell on the CV, but VC, being unstressed, lost its leading consonant. We may be dealing with long vowels here (V + V > V:). Most Sumerian grammatical morphemes are of CV form. Some combinations are inverted : *ab-zu* = *zu* + *ab* “l’océan primordiale” (Bord 2003 : 17). This may be evidence for earlier free word order in Sumerian.

Egyptian Hieroglyphics (attested from c 3250 BC) uses many (about 900) recognisable pictographs and combines ideographic and phonetic notation, but not in the same way as Sumerian. Determinatives and partial phonetic indications (old prefixes, suffixes ?) are added to clarify the core word. Hieroglyphics incorporates a consonantary, however, not a syllabary

(standard interpretation). I suspect the consonantary arose through applying a syllabic script designed for a language with few vowels to a foreign tongue with a vowel system that did not match. The Egyptian method of writing 3 vowels by using consonantal symbols implies reduction of *wu* to *u, yi* to *i* etc. This kind of change is typical of Niger-Congo and Nilo-Saharan. The Egyptian practice of attaching a snake to the SUN sign shows that Hieroglyphics were once used to write a Niger-Congo language in which the "snake" and the "sun" were denoted by the same word, such as *ra, da*. Egyptian vowels may once have been indeterminate however.

The rebus principle is a prominent feature, which suggests Hieroglyphics once wrote a non-Egyptian language with numerous homophones, such as occur in Niger-Congo. The rebus principle is based on homophony, which is not a feature of Egyptian. The same Egyptian sign is freely used for words that are phonetically diverse. But this is true also of Sumerian. It is explained by a pictographic (ideographic) source.

Pictographies of various kinds (ideographic, syllabic, alphabetic) occur in West Africa, where they provide elaborate pictorial catalogues of man's (and woman's) worlds (Dalby 1967). They appear to have originally been used in initiation ceremonies, and were also employed for purposes of magic. In Africa they have a meaningful cosmic context, and are embedded in the mythology. Africa therefore, not Egypt, is the probable source of all these pictographies. Unfortunately however documentation from Africa is relatively recent. But some of these scripts or their precedents must go back to antiquity. That is Diop's opinion.

The Sumerian grammatical pictographs expressed syllables with a phonetic V (vowel), CV (consonant + vowel), VC (vowel + consonant) or CV(C) structure. That is, the second consonant of the syllable was optional or "amissable" (Hayes). Hayes regards such amissability as unique to Sumerian. But it also occurs in the Linear Scripts of Prehistoric Crete. Furthermore, a glance at Westermann's (1927) Stammwörterbuch shows that the German scholar reconstructed many of his stem words in Proto-Western Sudanic with alternative forms, CV monosyllables with, or without, a final consonant : *ká, kán* "to speak" for example, alongside *kà, kàn, kàl* "charcoal" and *ka, kal* "crab". PWS shows numerous homophones, especially if (optional) final consonants are not taken into account. Should we therefore be comparing Sumerian with Proto-Western Sudanic ? Or for that matter with Cretan Linear A (Minoan) ? Cretan Linear A is a Kwa language (Campbell-Dunn 2006).

A crucial feature of Sumerian is the large number of homophones, leading to ambiguities. The problem is rendered more acute by the fact that often these homophones are monosyllables, even homophonous single vowels. Thus *a, (e),* means "water, canal, seminal fluid, offspring, father, tears, flood, alas, locative suffix "where, in, when", def. article, nominalising suffix". One suspects such homophonous vowels have lost initial consonants. There may be difficulties however in establishing what consonant, of several possibilities, has been lost.

Even if these different meanings were disambiguated in writing by the use of various different pictographs, one is left with the impression that Sumerian was destined for extinction as a spoken language. It had suffered too much consonant loss to be viable as a means of communication. Consonants convey more meaning than vowels, and are essential. Witness the Semitic and Egyptian consonantaries. By contrast, a script that showed vowels only would be unthinkable. It has been thought that Sumerian distinguished long and short vowels (long = short + short). But the script does not clearly recognise this (Bord 2003: 24). The limited number of Sumerian vowels had also undergone merger and neutralisation. Only the vowels *a, i, u, e* are indicated by the script. There is no graph for *o.* But *o* and *e* were late to develop in Niger-Congo, and *o* came later than *e,* as is clear from Westermann (1927).

If Sumerian had distinctive pitch, which has been suggested, an unusually heavy semantic burden would have been carried by these tones. Labat's Manuel (1988) does not have any obvious pitch marks attached to the Sumerian pictographs. See now also Bord & Mugnaioni (2002), L'écriture cunéiforme. Sumerian phonology shows clear evidence of the impact of stress (lost vowels, elision, (Poebel 2005/1922 : 12f) and lost final consonants). But this is not proof that pitch distinctions were not made in Sumerian. Pitch and stress may have coexisted. The presence of vowel harmony suggests pitch, as does Sumerian agglutination.

Northern Mandarin Chinese has four pitch phonemes. But Proto-Niger-Congo probably had two pitch phonemes (so Nekes (1911), Westermann (1927), Greenberg (1948), Williamson (1989) etc). Similar observations have been made about the number of tones in Proto-Afro-Asiatic. Both these language groups include some languages where stress predominates, however. Pitch and stress are not mutually exclusive. They may be interrelated. Or relatively independent. In Niger-Congo high pitch seems to correlate with (earlier) stress. A small group of languages in the Western Congo reverse the pitch of the other Niger-Congo languages. This is possible evidence that pitch developed from earlier stress.

As pitch was integral to Niger-Congo a reasonable hypothesis regarding the Sumerian script is that different pictographs representing the same syllable may have once implied differences of pitch. But how many ? Pitch languages differ greatly in the number of tones recognised. Our hypothetical two-tone system is proto-phonological, designed to simplify the raw data. I do not accept Creissels' (1994) predilection for pitch contours, as it complicates the matter unduly. Theoretical work aims at simplicity.

From Frankfort (1956)

SUMERIAN LANGUAGE

"Sumerian is a language isolate with no genetic connection with any known language living or dead. Numerous attempts have been made in the past by both amateur and professional linguists to link Sumerian with many different languages, but none of these proposals has found general acceptance."

HAYES

"Le principe d'agglutination ne doit pas être consideré comme la trace d'une parenté entre des langues". "On pourrait d'ailleurs proposer de considérer le phénomène d'agglutination comme une attestation de grande ancienneté pour une langue". [Introduction, note 4].

BORD

The languages to which previous scholars have attempted to connect Sumerian are numerous and diverse : Semitic, Egyptian, Hyksos, Elamite, Kassite, Dravidian, Proto-Indo-European, Hittite, Armenian, Sanskrit, Etruscan Caucasian, Georgian, Finno-Ugrian, Finnish, Hungarian, Turanian, Uralo-Altaic, Tibetan, Mongolian, Chinese, Japanese, Polynesian, Eastern Islandic, Turkish, Basque, African, Sudanian, Bantu etc (Komoróczy). In particular Sumerian has been related by scholars to practically all languages between Polynesia and Africa (Oppenheim).

That such disparate connections have been attempted is in itself significant, and suggests a source that is remote in both time and place. A recent effort by Gragg (1972), based on the analysis of the relative clause, has connected Sumerian to Afro-Asiatic, the group to which Semitic belongs. If Sumerian is not Semitic however, can it realistically be related to some other form of Afro-Asiatic ? It does not show the "skeleton consonantal root" with "vowel schema" so common in the Afro-Asiatic language family. It does not grammatically vary the root vowel in the manner of Semitic (Ablaut). It does not have VSO word order. The distinction in Sumerian between *ḫamṭu* (perfect) and *marû* (imperfect) verbal roots apparently resembles Semitic, but may be due to the influence of Akkadian (Semitic) grammar.

There is strong evidence for vowel harmony in Sumerian, which would accord better with a Niger-Congo than with an Afro-Asiatic identification.

In Sumerian however there is no formal difference between the noun and the verb. This may be a very ancient feature. It does not match either Afro-Asiatic or Niger-Congo. However Delafosse considers that there is no distinction between noun and verb in Mande. The orthodox treatment of Mande makes it Niger-Congo. But it may really stand somewhere between Niger-Congo and Nilo-Saharan.

Songhai, on the other hand, is traditionally classified as Nilo-Saharan (Westermann disagrees and makes it Niger-Congo). It has a large number of monosyllabic words which may be nouns, verbs or even stems (Westermann 1920: 192, 195 etc). It shares word order characteristics with Mande. It may be that both Mande and Songhai form a bridge between Nilo-Saharan (earlier) and Niger-Congo. Similar problems arise with Adamawa (N-C or N-S).

It may even be desirable to revert to the position which treats Nilo-Saharan and Niger-Congo as a single language group or phylum.

AFRO-ASIATIC

In NEB (1989, 22) Diakonoff gives a check-list of essential words in Afro-Asiatic. We reproduce some of them below, and compare Sumerian semantic equivalents. All comparative work begins with surface matching, then proceeds to more complex comparisons.

DIAKONOFF'S AFRO-ASIATIC	**Matched Phonemes I & Syllables II**	**I**	**II**
BONE : Sem. **qōṣ,* Cushitic **m-kkac,* Chadic **kasi* (Hausa)	Sum. *gir*$_2$	[0]	[0]
DIE : Sem. *mūt,* Egy. * *m(w)t,* Chadic **mutu* (Hausa)	Sum. *uš*$_2$	[1]	[0]
DOG : Sem. *kal-b,* Cushitic **kala/kara,* Chadic **kala/kara*	Sum. *ur*	[1]	[0]
EYE : Egy. **ìr.t,* Cushitic **yil,* Chadic **yil*	Sum. *igi*	[1]	[0]
HEART : Sem.**libb,* Egy. * *ìb,* Cushitic **libb*	Sum. *šag*$_4$	[0]	[0]
"I" : Sem.**'anāku,* Egy. **ìnk,* Cushitic **(')ani*	Sum. *ĝa*$_2$*-e*	[1]	[0]
JACKAL : Egy.**wnš,* Berber *uššən,* Cushitic **wažž*	See DOG	[0]	[0]
MAN : Sem.**mut,* Egy. **mt,* Chadic **mito,*	Sum. *nitah*	[1]	[0]
NAME : Sem. **šim,* Chadic **sim(m), summ, sūn, summo* (Bud) Cushitic *sum* (Hadiya, E.)	Sum. *mu*	[1]	[0]
THOU : Sem. **'anta/'atta,* Egy. *ntk,* Cushitic **'atta*	Sum. *za-e*	[1]	[0]
TONGUE : Sem.**las-ān,* Berber *i-ls,* Chadic **ha-ls(e)* (Hausa)	Sum. *eme*	[0]	[0]
TOOTH : Sem **šinn,* Egy. *sn,* Berber **sin*	Sum. *zu*$_2$	[0]	[0]
TWO : Sem. **thin,* Egy. *sn,* Berber **sin*	Sum. *min*	[2]	[0]
WATER : Sem. **ma/may,*Egy. *m(y)* - , Berber *a-ma-n* Cushitic *mā-n* "sea" (Somali)	Sum. *a*	[1]	[0]

Although the occasional single sound (Column I) can be matched between Afro-Asiatic and Sumerian in the above Table no complete match could be found on any CV root syllable (Column II). This admittedly rather crude procedure of numeric comparison does not favour an Afro-Asiatic

identification of Sumerian. If we are prepared to make the historical assumption that Afro-Asiatic is of African origin we may see how an Afro-Asiatic identification, rightly or wrongly, was arrived at.

In fact Chadic nearly matches on NAME if one assumes first syllable loss (Buduma *sum-mo*). WATER in Sumerian might be related to Afro-Asiatic if one assumes initial *(m)* is lost. Sumerian for EYE also may match Afro-Asiatic *yi* (assuming *(i)yi* < *g/ki* ?). In other words complex interpretations are required for this identification. That is, we are dealing with very deep relationships at best. The link with Afro-Asiatic may not be direct. To explore the matter further more advanced methods will be required.

An African solution, if indeed there is a solution, seems likely however. Africa was the original centre from which mankind dispersed. The diverse connections posited for Sumerian suggest an African origin.

We propose systematic comparisons with not only Afro-Asiatic (suggested by Greenberg) but also with Niger-Congo, Proto-Western Sudanic (which goes back further) and Niger-Congo-Nilo-Saharan. Between Niger-Congo and Nilo-Saharan lies Central Sudanic. Our example of Nilo-Saharan is Mangbetu (Central Sudanic). Even Khoisan will be considered in so far as it is relevant.

It will be seen that the best and most numerous comparisons can be made with Niger-Congo-Nilo-Saharan. Mande is structurally close to Sumerian. But that is not the full story.

Connections with Afro-Asiatic are limited and peripheral, perhaps due to borrowing. Lexical links with Khoisan are few and probably very old. Afro-Asiatic has additional grades of consonants (eg the emphatics) which are not characteristic of Niger-Congo, though possibly derived from it, and which do not occur in Sumerian. Sumerian also lacks the exotic click sounds of Khoisan. It is phonologically more similar to Niger-Congo-Nilo-Saharan.

The following abbreviations are used in the text which follows :

PB	Proto-Bantu	PNC	Proto-Niger-Congo
PCS	Proto-Central Sudanic	PNS	Proto-Nilo-Saharan
PWS	Proto-Western Nigritic	N-C	Niger-Congo
PPAB	Proto-Potou-Akanic-Bantu	N-S	Nilo-Saharan
PWS	Proto-Western Sudanic	A-A	Afro-Asiatic

BANTU, NIGER-CONGO, NILO-SAHARAN

"Bantu" Identifications

The erudite 19th century polyglot Sir Richard Burton related Sumerian to an early conception of "Bantu" (Niger-Congo). Rev. W. Wanger (1935), after a very thorough comparison of Sumerian with (mainly) Zulu vocabulary, thought likewise. He regarded successful matching of multiple synonyms for common words (eg "water") as particularly conclusive. We offer a modernisation of this argument.

Sumerian	**Niger-Congo**
a "water, canal, spring"	PWS *gi, gia* "water", Kpelle *ya* "water"
i_7 "river or canal" (*i* "weeping")	PWS *gi* "water", Mano *yi* "water"
a-mah "flood"	Bangi, Ngala, Poto *mai* "water" ?
a-ma-ru "destructive flood"	" " "
^{ĝiš} *má* "boat"	Lolo, Poto *watu* "boat" (*ma* = *wa*)
ra "flood"	Yoruba *ra* "fall of rain" (Maori *rere* "fall of rain").
pa_4 "small canal"	PWS *bà, bàt* "swamp", PWS *pat* "swamp"
pú "fountain, well, reservoir"	PWS *pú* "foam"
tu_5 "pour water", *a...*tu_5 "to wash"	PWS *tu* "water"
dúl "well"	PWS *tu* "water", Gwa *n-du* "water", Kya *n-du* "water", Lofana *n-du* "water", Akpafu *n-dú* "water"
idim "subterranean water"	PWN *DIM* "extinguish", PWS *lim* "extinguish", PWS *di* "head" = sky
nab "ocean", *naĝ,* na_9 "drink", "irrigate"	PWS *niua* "to drink", Bantu *nyiwa* "drink"

We believe he was right. Such cumulative correlations cannot be due to chance. He regarded African languages as conservative, liable to preserve very ancient forms over long periods of time.

A critical review of Wanger by Schulien (1937) in Anthropos admitted structural similarities between Bantu and Sumerian, but denied a genetic relationship. Schulien emphasised the huge time gap between Sumerian and modern Bantu languages, and argued that Proto-Bantu reconstructions, not modern Bantu words, should have been used as a basis for comparison.

He found fault with Wagner's sound correspondences, but did not have a theory of consonant grades such as was later formulated by Sapir (reprinted in Seboek 1971). The recognition of I plosive, II nasal, III fricative IV zero grades of consonants is crucial, I think, to the understanding of Sumerian, and explains many apparent anomalies. These grades go back to Nilo-Saharan. Apart from grade I, all the consonant grades must be regarded as innovations, and therefore relevant to genetic relationships. Vowel grades should also be recognised. But probably both Proto-Afro-Asiatic and Proto-Niger-Congo-Nilo-Saharan had only three main vowels *a, i, u* as set up by Westermann for early PWS (approx. = Proto-N-C-N-S).

Schulien also questioned Wanger's views about word derivation (from body parts etc). Again I consider Wanger was prescient and on the right track. The further argument that Sumeria is too far away from Africa must be abandoned ; since NZ Maori (Southern Hemisphere) has now been connected with Niger-Congo and Nilo-Saharan on strong lexical and grammatical evidence (Campbell-Dunn 2007). African languages have spread to the very ends of the earth.

In what follows we will consider Niger-Congo (which includes Bantu), along with Nilo-Saharan, from which Niger-Congo came, in more detail, and compare it systematically with Sumerian. Westermann's earlier work (1911) compared Western with Eastern Sudanic (Nilo-Saharan). Niger-Congo is now thought to derive from the Central Sudanic branch of Nilo-Saharan, which favours monosyllables (Bender 1989). In view of the Sumerian predilection for monosyllables (Bord 2003 : 29), this is very relevant. Our example of a Central Sudanic language is Mangbetu (Vekens 1928). For CV radicals in Bantu see Meeussen (1967 : 87).

Niger-Congo & PWS

Westermann (1927) went on in his Die westlichen Sudansprachen und ihre Beziehungen zum Bantu, to set up reconstructions of Proto-Western Sudanic (he included Songhai), which he compared with (mainly) Meinhof's Urbantu. His subgroups were I Kwa, II Benue-Cross, III Togo-Restsprachen, IV Gur, V Westatlantische, VI Mandingo oder Mande. Most of his reconstructions recognise high pitch (acute), low pitch (grave), and unmarked. His work has been treated as equivalent to Proto-Niger-Congo, but it is best seen, I think, as an approximation of Niger-Saharan (Niger-Congo ex Nilo-Saharan, or Pre-Proto-Niger-Congo). He remained aware of his earlier thesis (1911). And was influenced by the broad vision of his influential teacher, C. Meinhof. I propose to substitute Westermann's reconstructed PWS for Wanger's Bantu in my Sumerian comparisons. Modern scholarship tends to merge Kwa with

Benue-Congo, roughly Westermann's Benue-Cross. Westermann puts Guang morphology between Kwa and Benue-Cross. Togo Remnant is now included in Kwa.

Westermann's student Hans Mukarovsky, in A Study of Western Nigritic (1977), revisited his master's work with a more modern treatment of Niger-Congo languages. His book excludes Mande languages, however, which he groups, with Songhai (now thought to be Nilo-Saharan), outside the Niger-Congo group. Like Westermann, he often sets up alternative forms of monosyllables, also disyllables. His reconstructions tend to be longer, and do not go back so far as those of Westermann. Westermann is closer, I think, to Nilo-Saharan. Nilo-Saharan merges into Niger-Congo. Ultimately we must deal with CV monosyllables.

These reconstructed monosyllables were originally all the same, regardless of whether they are prefixes, roots, infixes or suffixes in Niger-Congo languages. The French scholar Lilias Homburger realised this. Westermann (1927) used the term "Stammwörter" in his book. His mainly monosyllabic stem words, some with optional consonantal Auslaut, or even alternative Auslaut forms, are not reconstructions or starred forms in the modern sense however. They are not abstract unitary "formulae", but suggested real words from, what once was, I think, an ancient free word order tongue. This *Ursprache, like all real languages, was subject to variation. The primary CV momosyllables, however, provided the building blocks from which our human languages have been constructed over the centuries.

Ultimately these primary words appear to be concrete nouns, mainly body parts (so Stapleton), such as *ka* "hand". Body parts are eventually used to express actions : arm = action of arm (cut, open etc), eye = action of eye (sleep), leg = action of leg (go). Wanger understood the importance of this fact. Ultimately there was no distinction between noun and verb. Both referred to "things", objects of human experience. The same elements came to serve also as numerals, demonstratives, pronouns, prepositions, adjectives, conjunctions and so on. This affinity of different word classes was noticed by Sir Harry Johnston (1922 : 496). His book treats nouns as primary in most cases. The evolution of word classes was contingent on the development of grammar and complex words. Nouns, verbs, adjectives etc later differentiated through the addition of abstract prefixed, suffixed, infixed elements. Compare Meeussen's (1967 : 97 – 98) tables showing the functions of these elements (nominal, numeral, pronominal, verbal prefixes, and verbal infixes. But on pages 97 & 98 he tabulates prefixes on not only the noun, but plots the same elements on the numeral, pronoun, verb phrase, and as infixes. "These (reconstructed) prefixes do not all have the same value" he cautions. The noun has the fullest system, the verb phrase (& infixes) the most limited.

As the primary elements grammaticalised they became prefixes, suffixes and infixes. Stapleton (1903) on Comparative Congolese observed that "Bantu" was built up from a small number of "roots". We do not distinguish between root and primary word. They both refer to things, concrete things of human experience. Thus not only are the noun prefixes (classifiers) derived from nouns, but even the suffixes. This is most evident in Mande, which applies the same suffixes to "nouns" and to "verbs". Some Mande suffixes (eg *tiki* "maitre") are clearly identifiable as old full words (see Delafosse 1929). Infixes come from faded prefixes and suffixes. I reject Bourquin's (1923/1969) reconstructed Ur-Bantu verbal monosyllabic roots. They are too vague, lack precision of meaning, and are an illusory solution to the problem of word origins.

Meeussen (1967) observes that it is difficult to reconstruct Proto-Bantu verbal morphology. This is because the verb is a later development than the noun. He nevertheless sets up tables (1967 : 97f) which tabulate prefixes and infixes across nouns, numerals (low), pronouns and verbs alike. I give an excerpt :

CLASSES	NP	EP	PP		VP			INFIX	
				I	II	III	I	II	III
1	mu	(u?)	ju	n	u	ua	n	ku	mu
2	ba	-	-	tu	mu	ba	tu	mu	ba
3	mu	(u?)	gu						
4	mi	(i?)	gi						

etc, down to 19, (24).

See Lyons (1981 : 109) on the traditional word classes. Compare Winstedt (1927 : 61) on verbs = nouns (*tidor*) in Malay. These can be derived from PWS roots such as *la, (d.o)* "sleep" ("eye") ; *ti-* (prefix). Delafosse (1929) treats the verbs of Mandingo (Mande) as derived from nouns (Delafosse 1929:201), as "noms employables verbalement". "Tout radical mandingue est essentiellement un nom". In Sumerian there is no real distinction between noun and verb.

There are instances, in Niger-Congo, of verbs having a plural (Ga, Efik, so Westermann 1911: 67, 70). But how can this be explained except by deriving verbs from nouns ? Plurality is based on the counting of objects. It is not a verbal category. Originally there were no plurals in the modern sense; only numerous affixes indicating "small", "many", "intensive" etc. The Mande verb has other noun-like features, such as ambiguity regarding voice. Active and

Passive voice developed as the verb differentiated from the noun. Mood, aspect, tense, were originally not grammatical but lexical categories. Mande represents an ancient stage of Niger-Congo, with poorly differentiated verbs. Hence Mukarovsky's reluctance to admit it as a member of that group.

Sir Harry Johnston's massive compilation (1919-22), entitled A Comparative Study of the Bantu and Semi-Bantu Languages, is best seen as an "Old Bantu" or Niger-Congo dialectology. It records local variations in vocabulary under semantic headings, predominantly nouns, but also other parts of speech. In his vocabulary in volume II he lists 170 nouns, but only 19 verbs. This statistic speaks for itself. The noun-based nature of this language group is thus made evident. Harry Johnston spent many years in Africa and spoke many of the languages concerned.

Johnston treats his "Bantu" as mainly disyllabic in the form of its roots, but admits monosyllabic and trisyllabic forms also. He does mention monosyllabic theories however, and frequently cites data that support them. His work can be used to investigate an African origin of the Sumerians, by localising unusual words and forms. Johnston appends reference numbers to his examples, which fix their dialect provenance. He does not mark pitch accents.

A more recent comparative account of Bantu languages was provided by Meeussen (1967 & 1980) who benefited from the studies of Guthrie (1967) and others. His reconstructions of Proto-Bantu vocabulary favour disyllabic stems. As we approach more recent language history longer words can be reconstructed. Bantu scholars have tended to focus on the well-known noun prefixes characteristic of this group.

The Bantu noun is said to be characterised by prefixes, the verb by suffixes (so Stapleton 1903). But an earlier stage can be discerned from the data in which verbs too had prefixes (often in *mV-*; noun prefixes ?), and nouns had suffixes (See Meeussen 1967). The initial vowels of Ijo verbs must be old prefixes. The Bantu augment is a verbal prefix. Mangbetu has verbs with a leading vowel, which looks like a plural article. Sometimes even the noun prefixes are omitted, or omissible. The Bantu verb suffixes appear to be from old demonstratives. This is particularly true of the few that can be reconstructed for Proto-Bantu.

Guthrie's (1967) Common Bantu recognises the following prefixes on the noun :

1*mu* 2*ba* 3*mu* 4*mi* 5*di* 6*ma* 7*j* 8*bi* 9*(-)* 10*(-)* 11*du* 12*ka*
13*tu* 14*bu* 15*ku* 16*pa* 17*bi* 18*ku* 19*pi* 20 *gu* 21*gi.*

Larger N-C prefix systems (eg in Atlantic, see Sapir) are usually derived from this canonical set. The odd numbered prefixes are regarded as singular genders, the even numbered as the equivalent plurals (so already Bleek 1862). Many Bantu languages show concord (prefix mapping onto successive words). But individual languages show great variation in the list of prefixes used, in their form, and in their number reference (some are neutral). Thus 12*ka* (also *ke, ko* etc) is singular according to Welmers, but plural 13*ka* according to Meinhof. Westermann derives this prefix from PWS *ka* "flesh, beast". The prefix *ka* can also mean "small" however. Prefix 6*ma* is semantically problematic, divided by some into 6, 6A, 6B. If it is a nasal grade of *ba,* then the various meanings, "mass", "liquid", "dual", "plural" can be explained (PWS *ba* "one", *bà* "broad", *ba* "they", *bà* "two", *bà* "swamp").

Multiple prefixes on single words are also possible. Campbell (1991) mentions honorific prefixes, used with *ba*-plurals, in Luganda. Some languages suffix these affixes. And some N-C languages even infix such elements (Manessy ed 1967). In Western Sudanic languages the prefixes may be reduced or lost ; or may be little more than articles (especially *a*-). Campbell (1991) rightly compares the Bantu prefixes to systems of classifiers. Interpretation of this Niger-Congo system has been unduly influenced by Bleek's analysis of Bantu. It is not historically or geographically as symmetrical as he made it. Chadwick rightly asserted the priority of meaning over form in studying languages. The meanings of these prefixes point to an earlier system of lexical classifiers. Grammar evolved from the lexicon.

Johnston (1919 : 31) also records the common preprefixes that often occur before the prefixes. He compares them to the 'article' of Aryan and Semitic. These look for the most part like reduplications (1*gumu, wumu* 2*baba* 3*gumu* 4*gimi* 5*didi, riri, lili* 6*gama* 7*kiki* 8*bibi* etc), but are often reduced to a leading vowel, imitating that of the prefix, as eg in Meinhof's (1906) formulation:

1*umu* 2*aβa* 3*umu* 4*imi* 5*ili* 6*ama* 7*iki* 8*iβi* 9*ini* 10*ilini* 11*ulu* 12*utu*
13*aka* 14*uβu* 15*uku* 16*apa* 17*uku* 18*umu* 19*ipi* 20*uγu* 21*iγi*

(Meinhof's Greek letters indicate fricatives). A more recent detailed account of the noun prefixes with discussion of their meaning and phonetic variants is given by Welmers (1973).

Campbell, G. (1991) gives the Luganda prefixes as an example of a full set. He points out that multiple prefixes may be used on one noun, and suggests a possible derivation of the prefixes from classifiers.

Since reduplication is an old method of indefinite plural formation in African languages, one suspects that even the "singular" prefixes may once have had plurals, and were once full words. Campbell-Dunn (2007), comparing Maori, presents evidence that these "prefixes" evolved from earlier classifiers (as in Malay, Chinese etc), which were old nouns. Compare Campbell (1991, I : 165). Another means of making "plurals" was by adding intensifiers or demonstratives. Some of the suffixes were the same as the Bantu prefixes : *-bi/pi, -ri, -ni, -ma, -ki.* The 55 or more (Bord 2003: 13-14) Sumerian silent Determinatives may be faded classifiers. But they tend not to match the accepted Bantu prefixes, and cannot be ranged into pairs.

Nevertheless the odd = singular : even = plural opposition of the Bantu prefixes requires an explanation. It is clearly very old. We suggest it is based on the ancient African notion that odd = male: even = female; in other words ultimately on the gender assigned to the classifier nouns. Thus 8*bi* is female (female breast) and so plural, as is 2*ba* "hands, two". Prefix 1 *mu, *gwu* comes from PWS *gu* "he", and is singular. In fact di Gregorio (1907) argued that the prefixes were once autonomous words, with a definite meaning (apud Homburger 1929 : 45). We regard this as the best explanation. The "prefixes" are very old grammaticalised nouns. As used before other nouns they have low pitch (Greenberg 1948, 1966, Meeussen 1969).

Homburger (1929 : vii) affirmed that "Les affixes du nom peul, bantou ou haoussa représentent des morphèmes communs". Hausa is now classified as an Afro-Asiatic language. Like Delafosse, she believed that all African languages had a common origin. Her book provides morphological evidence (prefixes) that links Niger-Congo (Ful, Bantu) with Afro-Asiatic [Chadic] (Hausa). However Chadic may be a bridge between Niger-Saharan and Afro-Asiatic. See Cohen's comments in Martinet ed. (1968 : 1318), Le Langage.

Greenberg (1963) followed up his earlier work on Bantu in the Southwestern Journal of Anthropology (1949) with a critical discussion of the comparative method. On page 31 of

Languages of Africa (1963) he reprints a table comparing West Sudanic affixes (after Westermann) with equivalent Proto-Bantu prefixes. (The Bantu notation is now somewhat dated).

PWS	**PB**	**Meaning**
u	γu	Sg, personal class & animate non-personal class
ba	ѵa	Pl, personal class
i	γi	Pl, animate non-personal class
li	li	Sg of paired objects
a	γa	Pl of paired objects
ma	ma	Liquids & other mass nouns
bu	ѵu	Abstract
ki	ki	Plants, objects
ku	ku	Infinitive, locative
ka	ka	Diminutive singular
ti	tu	Plural of diminutives

The Bantu prefixes are all CV (or extended to CVCV, VCV, or reduced to V). Which puts them in the same formal category as the Niger-Congo "serial verbs". These too were once monosyllabic nouns. Verb + verb (serial) = noun + noun. The large number of these elements sets them aside from "prefixes" in the normal sense of the term. The same could be said of the Sumerian (mostly CV, also CVCV, VC, V) Modal Prefixes, Conjugational Prefixes and Dimensional Prefixes. One is tempted to try to match these up with the "Bantu" prefixes etc, particularly the vocalic prefixes *a-*, *i-*, *u-*. But there are serious gaps in our knowledge of Sumerian. And much disagreement regarding the grammatical details.

Meeussen classified the pre-Bantu root as a noun. Even the Niger-Congo serial verbs come, we think, ultimately from primitive noun combinations. "Noun" in this acceptation is vague and formally indeterminate. Interestingly Chinese also uses "serial verbs" such as "look see". Compare colloquial English "Take a 'look see' ". NZ Maori has verbal prepositive particles and nominal prepositives. Sumerian is notable for turning many old Niger-Congo noun forms into verbs, as we shall see. The Sumerian modal and conjugational prefixes have a family resemblance to the Bantu noun prefixes. But their function is more problematic (often uncertain).

SUMERIAN TYPOLOGY

"Similar typology does not prove a genetic relationship, but often indicates where to look for one. We disregard it at our peril."

Heine (1980 : 99) : "There appears to be general agreement that Proto-Niger-Congo was a noun class language. This view has been expressed by most scholars who have done comparative work on this family, and, to my knowledge, has never been seriously challenged."

Agglutination

The Sumerian language is agglutinative (additive) in its structure, with numerous clearly identifiable discrete segments of recognisable meaning (prefixes, roots suffixes, infixes) that could be strung together and attached not only to root words, but to whole clauses or sentences. The verb is particularly complex. Afro-Asiatic fails the typology test on agglutination. This is a problem if we make Sumerian Afro-Asiatic.

Examples : from New Age Encyclopaedia, (with a somewhat old transcription).

(1)

Nighuš-dingir-a-ta

"Terror-God-of-from" (*huš* "frightening", also "red", of blood)

"From the terror of God" (*a* "of", *ta* "from")

This use of postpositions in this example (1) has affinities with the Mande group of Niger-Congo.

(2)

Lugal dingir-ra-ni e mu na-ni-du

"The king-his god for-temple-did build"

"The king built a temple for his god" (*du* "build")

The final verb placement of example (2) again resembles Mande structures. There is no grammatical gender, as also in Niger-Congo. Thus *dingir* means "god", but also "goddess". There may be several NPs before the verb (Hayes 2000 : 31). This suggests that the sentence was once a string of nouns, ie non-verbal.

The Niger-Congo languages (including Bantu) are also agglutinative in structure. But most Bantu words can be analysed into Prefix(es) + Root (disyllabic) + Suffix(es). Agglutination goes further in Sumerian, with greater accumulations of monosyllables. Cross-referencing is a feature of Sumerian : *ni* "he" cross-references *Lugal* "king", *na* "for" cross-references *ra* "for" (dative). Bantu "concord" (prefix repetition) serves a similar function : *Ba...ba...ba* etc.

Bo aba-ntu babi babota tu-ba-tia "They are bad people ; we fear them" (from Johnston, 1911, Luganda). [They: these-they person: they bad: they who kill: we them fear]

In Sumerian, as in Niger-Congo, the base is indeterminate by nature (Bord 2003 : 29), and may be substantival, verbal or adjectival. We consider however that the underlying reality is nominal rather than verbal, and refers to objects of human experience. A good discussion of word classes can be found in Lyons (1981 : 109f).

Reduplication

A diagnostic morphological procedure found in Sumerian is reduplication. This is used to form plurals in the noun: *kur* "mountain", *kur-kur* "mountains", *šu* "hand", *šu-šu* "hands". It is also possible to reduplicate adjectives to indicate the plural: *a-gal* "big water", *a-gal-gal* "big waters", *diĝir-gal* "great god", *diĝir-gal-gal* "great gods". It is probable that reduplication of the adjective can be used to express a superlative: bar_6-bar_6 "very bright", di_4-di_4 "very small", *dirig-dirig* "very excessive" and so on. The number of adjectives so used is relatively small however (Examples from Bord 2003).

The words *mah* "great" and *nun* "princely" cannot be reduplicated. An adjective cannot be reduplicated if its head noun is already reduplicated. This suggests that the words *mah* and *nun* are in some sense already reduplicated. In the case of *mah* an African interpretation from *ma-ka,* earlier *ka-ka,* is a possibility. This would make the *a* long *ā.* We assume prenasalisation. Maori has *maha* "many", also *nui, nunui* (pl) "great, of high rank" [*nunui* > *nun* ? = *nūn*]. Maori is related to Niger-Congo, as this interesting detail shows.

As Sumerian makes no morphological distinction between noun and adjective, or even noun and verb (Bord 2003: 37), it is not surprising that in Sumerian verbs are also reduplicated.

Regular verbs (50% - 70%) in Sumerian have only an (unmarked) *hamt.u* base, commonly used of past time and completed action. These verbs undergo complete reduplication: *sum* "to give", but reduplicated *sum-sum*. "Intransitive" verbs occur only in the *hamt.u* form. But the use of the term has been criticised as irrelevant to Sumerian.

About 25% of Sumerian verbs have a *marū* form made by reduplication. In Sumerian the *marū* forms (usually present-future) are derivative and can only be made from perfect verbs. If the verbal root is CVC, the second consonant is lost when reduplication occurs. Thus *ĝar* becomes *ĝá-ĝá,* and *ku(r)* becomes ku_4-ku_4 . Some verbs such as gi_4 have reduced reduplication in both types : gi_4-gi_4 (*hamt.u* and *marū*). Westermann indicates that reduplication in Kwa is mainly used to form infinitives, verbal nouns and verbal adjectives (1926, 1927, 1930). This observation supports our derivation of verbs from nouns.

Poebel (1922/2005: 168), on the basis of Sumerian translations into Akkadian, states that in Sumerian "die Wurzelverdoppelung drückt eine Steigerung der an der Verbalwurzel haftenden Idee aus, sei es nun in numerischer, quantitativer oder qualitativer Bedeutung". We regard the numeric aspect as particularly significant in view of our thesis of the primacy of the noun. Black (2004 : 107) quotes the Semiticist Siedl on reduplication to express "plurality of subject or object, or 'plurality' in the verb", including repeated or lasting or more intense action or state.

In Egyptian however (so Gardiner) "Verbs signifying continuous or repeated human actions, habitual occupations, sounds, colours and violent movements are apt to be created from biliteral or triliteral stems by the repetition of two of the radical consonants": *ndnd* "take counsel" from *nd* "ask" etc. How similar to Sumerian. He continues : "A half-reduplication also occurs": *grg* "furnish, equip". "Much rarer is a reduplication of the final consonant only". "Hebrew can parallel all the abovementioned kinds of reduplication" (Gardiner 1957: 210-211). See Hartmann (1931: 142-143) for "verba mediae geminatae" ("verdoppelte Verben") in Arabic. Quantitative Ablaut is evidence that reduplication was originally more widespread in the Afro-Asiatic languages.

NOTE: The existence of quantitative Ablaut in Semitic and Arabic, not to mention the existence of long vowels in general, should probably be explained in terms of the simplification and loss of (redundant) reduplication consonants. Good evidence for this can be found in Maori. Maori also has examples of postinitial reduplication.

Reduplication is a very old morphological device and occurs not only in Niger-Congo but also in Malayo-Polynesian languages. See Campbell-Dunn (2008, on Māori), Winstedt (1927, on Malay). Maori for example can reduplicate the noun for plurals and indefinites, the adjective for some plurals, and the verb in the case of multiple subjects or objects. Maori however can weaken the adjective by reduplicating it.

Noun + Adjective + Article/Definite

Another very early feature of Niger-Congo and Nilo-Saharan languages is the use of postposed articles and definites: typically – *la* and - *ri, -li, -di*. These can be identified in some of the most characteristic expressions of Sumerian. The preposed article *il, al,* common in Arabic, is absent from Sumerian. Basic words such as "tongue", "man", "woman" can also be shown to be Niger-Congo. These often occur with a postposed article or definite.

We consider *eme* is the Niger-Congo *(d)eme* "tongue", with loss of weak initial retroflex [*d.*], giving a zero grade. The final *–l* of *eme-sal* (a dialect), is, we think, the old Niger-Congo postposed article *–l(a),* reduced (as often) to the consonant (+ zero vowel). Similarly final *–r* is the old Niger-Congo postposed "Definite" in *–ri, -li, -di*. The morphemes *sa* and *gi* we identify with Niger-Congo *ka* > *sa* "woman, small", and perhaps Sumerian $gi_{(17)}$ "young man" (but PWS *g i* "speak"). In Niger-Congo *ku* means "male" (also "big", "increase"), *ga(n)* means "great", *ma* is used of "water" (Bangi, Ngala, Poto *mai* "water"), *du* means "cow".

A similar analysis can be made for Sumerian *lugal* "king" : *lu* "man" + *ga* "big, king" (Niger-Congo *gá(n)* "big, king") + *(a)l(a)* "Article". In Niger-Congo *lu* means "cow" but also "head" (whence "man"). In Sumerian *lu* not only means "man", but also "person, people" and "sheep". As for *eme-ku,* it is *eme* "tongue" + Niger-Congo *ku* "man, male" (if we follow the early interpretation). The *du* of *udu* "sheep, small cattle, ram, wether" is equivalent to *lu* [*l/d*]. Niger-Congo *lu, du, ru* "cow", also "head". The *u-* is a Niger-Congo noun prefix, as we have said. Cf. $utua_{(2)}$ "breed ram, breed bull", with *–a* "father" ? (acc. to Halloran). Possibly really an art/agent marker.

The postposed *–a* may be attached to whole clauses to form relatives or "big adjectives". It is related to Westermann's (1927 : 247) postposed definite article *(a)la* which also forms agent nouns, especially in Mande. The initial consonant *l* has been lost in Sumerian as in some Kwa languages.

The above examples are evidence for both Niger-Congo words and Niger-Congo morphology and syntax in Sumerian : noun + adjective + old postposed article *–la, -le, -al,-a* or definite *–r(i),-l(i), -d(i).* We therefore provisionally classify Sumerian as early Niger-Congo (ex Nilo-Saharan). The postposed article/definite is an early feature and largely extinct in Bantu. It occurs in Nilo-Saharan. In Afro-Asiatic the article is normally preposed to the noun, eg in Arabic. We note that a few fossilised postposed articles are found on Arabic placenames. The Afro-Asiatic adjective however comes after its noun as in Sumerian.

Word Order

Hawkins (1983 : 338) gives SOV as the basic word order of Sumerian (but classifies it as Afro-Asiatic, citing Greenberg (1966 : 109), no. 21 : III, SOV/Po/NG/NA). We question this as the basis for an Afro-Asiatic classification. Hayes (1997 : 30) gives SOV as the preferred order in Sumerian simple declarative sentences. OV word order also appears in Sumerian compound words such as *gud-niga* "Tiermäster" (*gud* "cow" + *niga* "fatten"). SOV is an early form of word order also in Niger-Congo (Mande group). Givón reconstructs SOV as the original word order of Bantu on the basis of old verbal morphology. For example Stapleton (1903 : 70) "*Na-mo-beti*" "I have beaten him". The adjective follows the noun, except for *kug* "pure" (*kug* ^{d} *Inana* "the pure goddess Inana"). This *kug* may be fronted.

SOV is harmonic with postpositions ("Terror God of") rather than prepositions ("Terror of God"). Mande uses postpositions (Delafosse 1929). Arabic (Afro-Asiatic, Semitic), by contrast, has prepositions and VSO word order, with NG. Sumerian has NG (noun + genitive), which is VO in type (head + modifier) however. Hayes says that "the PA [pronominal affix] after the verbal root cross-references the patient [ie the object] in the perfect aspect". The opposite occurs with the imperfect aspect. Niger-Congo languages fluctuate between SOV and SVO, but prefer VO (head + modifier) in noun phrases; GN/NG fluctuates. See Givón in JALL (1979), ps 199 – 224 for a discussion of this. The Determinatives mostly precede their noun, but a few follow. Compare the situation in Niger-Congo where the prefix-classifiers mostly precede, but follow in a few of the Niger-Congo languages.

Poebel (2003/1923 : 36) states that "Die Rangfolge der einzelnen Wörter in den obigen Schema [p. 35 Die Kettenbildung] ist eine durchaus logische, insofern als an die Spitze der Kette das konkreteste aller Wortarten, das Substantiv, und dann ihm zunächst immer diejenige Wortart gesetzt wird, welche dem Substantivum an Kokretheit am nächsten kommt." Certainly the verb is more abstract than the noun.

Fronting occurs for emphasis. Hayes (1997 : 30) : "The adverbial cases may precede the patient or even agent for emphasis. For example, in inscriptions which record the doing of some pious deed for the benefit of a god or goddess, the dative (benefactive) NP usually comes first."

A particular feature of Sumerian word order is **Spaltung**, usually referred to as "Float". It involves the separation of constituents of a "word", with the insertion of words in between. Thus *zu$_2$...ku$_5$* "bite", *igi...duh* "see", *ĝiš...tuku* "hear", *igi...la$_2$* "burn", *gu$_3$...de$_2$* "to speak". These look like old NOUN + VERB combinations, with the verb, as usual, at the end. The noun may be in an adverbial case. The dots indicate insertion of prefixes, pronouns etc. Such expressions are called Compound Verbs (Hayes 1997 : 28). Hayes considers they are recent, having replaced older simple verbs. They may preserve old NOUN for VERB patterns. They may indicate that the ancient ancestor language of Sumerian was once a free word order language. See Hayes (2000 : 158 – 159) for discussion.

Poebel p. 175 mentions the sequence "verbales Präfix + Subjectselement + Verbalwurzel", as seen in " i-lá-en" meaning "du hast dargewogen" (you [have] thought), as opposed to "i-e-lá". The original expression was "i-lá-e", that is "er wägt dar" (he thinks). In any case the "verbal Präfix" was once an independent word, which could stand apart from the "Verbalwurzel".

Ergative

Recently it has been shown that Sumerian is ergative (references in Bord 2003 : 29, Hayes 1997 : 28f), and marks the agent with postposed *–e* (ergative case). There is no transitive : intransitive verb distinction, and no accusative. This "ergative" can be interpreted as from a dummy agent noun "maker", or a weakened verb "make", probably from PWS *kia* "to make", VI Chassonke (Mande) *χe* "make" (elsewhere *ke*). Johnston (1922 : 316) has *ke, he* "hand" (whence "make"). The surface "verbs" of ergative sentences do not have full verb status. They are often invariant. Afro-Asiatic languages are not ergative. Delafosse (1929 : 203) quotes *nā du-mu-ni-kè* for "viens faire l'action de manger" in Mande.

Negatives & Prenasalisation

The usual Sumerian negative with the indicative (and non-finites) is *nu*, which comes first in its clause. This negative is rare in Niger-Congo; Johnston (1922 : 518) has *nu* (110), *una* (111) [Luba-Lunda, Congo]. Sumerian, it seems, originated in the Congo. We derive *nu* from a word for "hand" (hand held up), ie theoretically *tu* or *ku*, with prenasalisation. Johnston (1922 : 517) has *ku* "not" (205-6), "Spanish Guinea-West Cameroons". Bender (Heine &

Nurse eds. 2000 : 65) gives Nilo-Saharan *kV* (especially *ku*) "not". PWS *nú* "hand" < *ntu, *nku. Egyptian has *bu, ben, tem* (not nasalised), but also possible reflexes of PWS *na* "not".

Prenasalisation is characteristic of Niger-Congo languages, and gives rise to "nasal grades" alongside normal plosive grades of the same word. Prenasalisation can also be seen in Sumerian words such as *nu-* "man", which comes from Sumerian *lú* "man". This *nu-* is used to form compounds such as *nu-èš* "priest", < *nu* "man" + *èš* "sanctuary"; this is probably an old noun + genitive combination. A possible origin for prenasalisation can be found in the Mangbetu preposed article *na, no, ne,* with corresponding plurals *a, o, e* (possibly from *nta, *nto, *nte, and *ka, *nko, *nke, with nasalisation and loss of the velar – ie the old T/K sg/pl opposition). Thus phonology arises from old morphology. But embedded nasals from old prefixes and suffixes wedged between words are also a source.

The Sumerian modal negative is *na,* PWS *na* "not" (nasal grade, from *ta* "hand"). See Hayes (1997: 27). This is used with a conjugation prefix i_3. I relate this *i-* prefix to Johnston's (1922: 518) *i* "a negative particle not easy to classify... also an infix... and perhaps...suffix". It probably derives from *ki, ci, si* "not" (or from *ni*). The form *si* is particularly common as prefix, infix, or suffix in Bantu. The "word" *i* once began with a consonant. Johnston thinks *wi* was the source. This is questionable. See Bender (Heine & Nurse eds. 2000 : 63), *mV* "not" in Nilo-Saharan, but *n, m* in Afro-Asiatic. One could argue for panafrican negatives here. But see the following paragraph. The variation of placement may go back to a free word order, isolating stage.

It has often been said that negatives are "naturally" expressed by nasals in all languages, and that nasal negatives so prove nothing. But as the Niger-Congo nasal negatives derive from words for "hand", which did not originally begin with nasals, the argument is not valid. Nasal negatives are Niger-Congo innovations, a "nasal grade". Wherever they occur, they support a Niger-Congo (or Nilo-Saharan, or more remote African) origin for the languages concerned.
In addition Sumerian has a vetitive "will not" in *bara-* which takes the imperfect root, and a negative affirmative "indeed did not", also *bara,* which takes the perfect root. This is from *ba* "hand" (held up to indicate 'no'). See also Bender (Heine & Nurse 2000 : 63) for A-A *b(aa)* negation (from **bara* ?). Afro-Asiatic split off from Nilo-Saharan. The following *-ra* occurs in "Bantu" *tara* "not" (255), *ara* (2), (64a, 65) etc (Johnston 1922: 16). This *ra* may be an old postposed article. Poebel (2005/1922: 259) considers that *bara* expresses "eine stärkere Verneinung" and is more or less prohibitive. So "do" or "want" is the possible original

meaning, compare Westermann (1927 : 246), PWS *lá* “machen”, “wollen”. Egyptian has *ben,* which comes also from *ba.*

It is clear from this last example that there is a possibility that the Sumerian negatives go back into Nilo-Saharan or beyond, as Bender’s Afro-Asiatic example *b(aa)* indicates. Further investigation, it is hoped, will clarify the matter.

Dialect Forms

The two main dialects of Sumerian are called Eme-sal (used by goddesses, women, eunuchs) and Eme-gir (“the princely tongue”), previously known as Eme-ku. So we have lexical gender marking in Sumerian as in African languages (Troubetskoy 1949). Other references are to Eme-udul “language of cowherds”, Eme-ma $_2$–lah $_4$ “language of sailors”, Eme-gal “great language”, Eme-sukud “high language”. The word *eme* must therefore mean “language” in Sumerian.

The word for “god” is *diĝir* in Eme-gir, but *dimmer* in Eme-sal. So *ng (or *ngw) has been posited in the source. Johnston (1922 : 307) quotes *lungu, rungu* etc, which may provide a “Bantu” basis ; page 308 also *dimu, rimu* (56b, Makua group). Alternation of *i/u* is common in Bantu. Possibly the Sumerian word for “god” is from *dim* “fashion, hand” (or from *di* “head ” or from PWN *DIM* “spirit”) + PWS *g̲i* “firmament”. Westermann’s *g̲i* represents a lenis labiovelar. In Sumerian dialect differences are mainly phonetic in character. However ES *ga-ša-an,* EG *nin* are lexically different forms for “wife” (Bord 2003 : 92). Bord tabulates some differences between these dialects.

We may compare the morphology of ES *mu-lu* “man”, EG *lú* “man”, ES *me-ri* “foot”, EG *giri*$_3$ “foot”, ES *nu-nus* “woman”, EG *munus* “woman”, ES *i-bí* “eye”, EG *igi* “eye” etc. ES *mu-du-na* “spouse”, EG *ĝitlam* “spouse”, ES *e-ri* “slave”, EG *ìr* “slave”, ES *ù-mu-un* “lord”, EG *en* “lord”, ES *ga-ša-an* “lady”, EG *nin* “lady”.

Fossilised Noun Prefixes

The first of our dialect examples “man” ES *mu-lu,* EG *lú* looks like a typical Niger-Congo prefixed (Class 1. *mu-* “personal singular prefix”) ES, and prefixless EG, variant. The same prefix occurs on Sumerian *munus* “woman”, and on ES *mu-du-na* “spouse”. Swahili *mutoto* “child” has this prefix. Original *gwu (with labiovelar). Johnston (1922 : 418) gives *ωmuntu* “woman” (132, 134, Central Congo). The Sumerian *munus* [< *-mun(u)t*] is related to this. The

word *mušen* “bird” also has prefix 1. Kwa, TogoR, Atlantic use this prefix for “Lebewesen”, acc. to Westermann, not exclusively for “persons”.

Compare also *lu* “sheep” (no prefix) with vocalic prefixed *udu* “sheep” [*l/d* alternation]. In Niger-Congo Class 11 *u-du, lu, du* is a singular animal prefix (Williamson in Bendor-Samuel 1989 : 39). The initial *d.* has been lost. Compare *úg* “lion”, *úg-banda* “leopard”, *uga*^{mušen} “crow”, *utua* “breeding bull” (*ku* “male”), *uz, (us)* “domestic goose”. Sumerian tends to lose initial *d*. But the *u-* may be for prefix 1, or mean “big, male”. See previous paragraph.

But *utu* “sun god” may be from prefix 1, with *m*-loss, or reduplicated, with *t*-loss. PWS *tù(à)* “to bake”. Sumerian *um(u)* “old woman” has the same reduction of *mu-*, as has S. *um-ma* “old lady”, *um-me-da* “dry nurse”. Likewise *ugu*$_4$ “ancestor”, *ugula* “chief” (with postposed article), *ugunu*$_2$ “lady”.

Where an initial consonant has been lost some doubt remains as to the original sound. Thus the examples above referred to Niger-Congo Class 11 might in some cases have *u-* from PWS *ku* “male” > *u.* It is fairly certain that *ur* “dog” is from *kuri* (applied to various quadrupeds in Africa), including “dogs”. Doubts remain as to whether some of these initial vowels are old prefixes, reduplications or roots.

The Sumerian word *alu(m)* is an adj. applied to “sheep”, “small cattle”, with a different prefix again, probably from Niger-Congo 2 *a-* < *ba-*, “plural of animals”, ie “Lebewesen”. Compare *á-sikil* “pure” however. Noun-type prefixes occur on adjectives in Niger-Congo. They are not a distinct word-class. Compare Sumerian *áb* “cow”, *a-ia*$_{10}$*-lum* “stag”, *amar* “calf”, *a-rá-bu*^{mušen} “duck”, *a-ru-a* “offering” (animals ?), *anše* “equid” (from PWS *a-kati* “Esel, Pferd”), *a-maš* “herd”, a “Wanderwort”. The same *a-* occurs on Amar-utu “Bull of the Sun”, but Akkadian Marduk. So here *a-* is a preprefix (prefix *ba-/ma-*). That is prefix 2, applied to “Lebewesen”. Plural meaning largely lost. This process of prefix levelling is common in Western Sudanic. The word *nag* “to drink” has a prefixed noun *a-nag* “Getränk “ (Delitzsch).

ES *ù-mu-un* “lord” may show a preprefix *ù-*, pref. *–mu-*, root *(l)u* “head”. Compare *ù-sun, šún* “star” (with & without prefix). Bord (2003 : 157) gives *ù* as a pronominal prefix used to form nouns. EG *en* “lord” may reveal that the *n* of *ù-mu-un* is the (remains of a) C(V) root. But ES *nu-nus* “woman” is apparently reduplicated (or assimilated). Compare PWS *ni, (nu)* “mother”, Sumerian EG *nin* “lady”. Niger-Congo prefixes (and preprefixes) were unaccented

(so Greenberg etc). But Niger-Congo reduplications carried an accent on the first of the two syllables. Halloran's (1996-97) interpretations of the Sumerian vocalic prefixes are sometimes questionable.

ES and EG for "foot" look like different prefixes, *me-, gi-* + the same root *ri.* The prefix *me-* (Niger-Congo Class 6 *ma*) can be applied to pairs (feet); plural prefix 4 *gi* is used of "road" (ie "foot, go"). But root ri_6 means "go", "throw", "moor a boat".

The same "words", *(m)e-ri, (g)i-*ri_3 , with initial consonant loss, are used for "slave". The words for "eye" have the prefix *i-*, (Bantu singular Class 5 *li, di, i*) but employ different roots, *bi* and *ki* (both used for "eye" in "Bantu" (Johnston 1922 : 290). Sumerian *igi* means both "eye" and "see" in Sumerian, but always has a "nominal" prefix. The word classes are not distinct. The same word can mean "in front". In Niger-Congo prefix 5 is applied to eyes and breasts, dual concepts. But also to "fire". Hence Sumerian *i-bi* "smoke", PWS *bi* "black", Edo *i-bibi* "dark", Kukaruku *e-bi* "darkness". Sumerian *ìbíla* means "son, successor".

We have now identified both the form and meaning of six Niger-Congo noun prefixes in Sumerian dialects. These prefixes are the hallmark of Niger-Congo languages. Not to mention our discovery of possible preprefixes. Sumerian appears to have moved out of Africa (originally from the Congo, a Bantu area) before 3000 BC, to judge from the archaeological evidence (Sumerians in Sumeria).

"Bantu" Local Prefixes

Bantu languages have three local prefixes : 16 *pa-*, 17 *ku-*, 18 *mu-* , indicating 16 "on" (surface), 17 "to, from, on (top), 18 "in" (Meeussen 1967 : 103). These may be identified on placenames : 16 Adab, An-ša-an = *Padab, Pansan : 17 Ubaid, Unug, $Urim_5$ = *Kubaid, *Kunug, *Kurim ; 18 Mu-ri-iq Tidnim = *Muriq T. Compare (for 18) $murub_4$ "centre, middle place", *múš* "cultivated land". For 16 (with initial consonant) see *pa-pah* "central part of a sanctuary", *parim* "arid land", also (without initial consonant) *a-ša* "plain, field", *abul* "gates of a city", *an* "sky, open air", *an-ub-da* "region", *a-ri-a* "ruins, desert", *a-šà* "field". For 17 see (with initial consonant) *ku* "foundation", *kur* "mountain, highland", "strange land, lower world", *ub-da* "region", *uru* "city, village", *urugal* "the lower world", *uš* "foundations", *utug* "ditch, trap". The initial consonant may be lost on these prefixes (as often in Western Sudanic languages). We assume 18 *mu-* had a form *u-* (indistinguishable from 17 *u-*). Guthrie reconstructs 17 as *ki.* So Ki-en-gi "Sumer", Ki-uri "Akkad", Ki-maš "Kimash" may belong

here. In Sumerian *ki* means "earth, land", and is used initially on numerous place words : *ki-bad-ra* "distant places", *ki-duru*$_5$ "productive part of a field", *ki-e-ne-di* "dancing place", *ki-kal-la-kal-la* "sterile land, lower world", *ki-nam-nitah* "battle field", *ki-sum-ma* "plantation of onions", *ki-ùr* "territory". This prefix also has forms without the initial consonant : *ib* "corner" (PWS *bi* "place"), *igi-nim* "high region", *iri* "village, city, district", *isi* "ditch". Formal neutralisation of the distinction between prefix 4 *mi-* and 17. The *u-* of prefixes 1 and 3 (full form *mu-*) is likewise neutralised in relation to 16 and 17. Sumerian *gù* meaning "land, region" is equivalent to 17 *ku* here, with *gukin*$_2$ meaning "the inhabited world". In short, the Niger-Congo system of prefixes is not viable in Sumerian, due to consonant loss.

The placename Elam may be from PWS *là* "earth". This root has Niger-Congo prefix *i-*, but also *a-*, *ka-* ("side" ?). Since Niger-Congo *i* > *e*, *a* > *e* we cannot identify this prefix. It can hardly be from *ka* "beast, flesh". Nor is it likely to be plural 12. "Small" is also given for *ka.*

"Silent" Determinatives

It has already been suggested that the Niger-Congo prefixes evolved out of an earlier, more elaborate system of classifiers. Most, but not all, of the Sumerian determinatives (thought not to be pronounced) are preposed like the prefixes. In many cases these can be identified as words in Niger-Congo. Are they to be explained as faded classifiers? They occur only with a minority of nouns requiring closer definition.

It should be noted that the postposed determinative *ki* (written raised) **followed** words for countries. It is the same as Niger-Congo **prefix** 17 (b). But Nupe has a postposed ethnic/geographic affix *–ci.* Bantu *ki* means "country". The Classical Chinese classifiers were postposed (Egerod in NEB 22: 725) as they were in Thai and Burmese.

In Niger-Congo these elements sometimes follow and are suffixed. Some scholars regard the suffixes as later however. We trace them all back to pre-Niger-Congo classifiers such as were used in Malay and Chinese. Sumerian determinatives generally precede. In modern Chinese classifiers generally precede, but the article-like **concretiser** (so Pei 194 : 499, on *tzŭ*) follows. In Modern Chinese *ko* is widely used as a classifier.

Few of the Sumerian classifiers can actually be identified with particular Niger-Congo prefixes however, and the singular : plural patterning of the prefixes appears to be absent. So

we are clearly dealing with Pre-Proto-Niger-Congo, not Niger-Congo itself. We infer that at some early date Nilo-Saharan or a branch of it used a classifier system.

A list of Sumerian Determinatives, taken from Bord (2003 : 13 - 14), now follows. We list possible Niger-Congo cognates, along with proposed sound changes for each determinative.

anše **determinative for equids**

PWS (*-kati*) “donkey, horse” (Wanderwort)
1a Animere *a-kete* “donkey”, Kukuruku “horse”, Avatime *e-tedži* “donkey”, with Nuba *kag’,* (*kad*) “donkey”, “horse”.
I assume the initial *a* is a prefix, the *n* is from *k* via a velar nasal, the vowel *a/e* has been lost, the *t* has been assibilated, and the final *e* is from PWS *i*.
***K = #** ***A = a** ***T = š**

diĝir ***d*eterminative for divine beings**
PWS *li* “to dig”, PWS *lim* “to extinguish”, PWS *lima* “tongue” (= hand). But also PWN *DIM* “spirit”, PWS *di* “head”. PWS *–gi* firmament, world”. The *ŋ* (in *ĝ*) is infixed, probably “of”. The first element may be an old word for “hand”, or “spirit” or “head” (rain). It ends in a velar nasal. The symbol *ĝ* is for *ng*. Here “head” “top” + “world, firmament”.
***D = d** ***I = i** ***G = ĝ** ***I = i**

diš **determinative for masculine names.**
“Bantu” *d i* (236), *dim* (237), “masculine”. Cameroons-Cross River. “Bantu”
dit’ (124) Central Congoland.
Sumerian *š* comes from *t*.
***D = d** ***I = i** ***T = š**

dug **determinative for vases containing food.**
PWS *lum* “to bite”, Efik *dum* “to bite”, PWS *lu* “head”, Grebo *du, lu* “head” (biting is an action of the head.).
Lefana has a *k* prefix on this word. Sumerian pronounces *dug* as *duk*
***D = d** ***U = u** ***K = g**

duk **determinative for buildings**
PWS *tù* “to build”, Bantu *tuŋga* “to build”, Malinke *tugu* “to crush”, Ewe *tùgù* “to crush, to pound”. PWS *lum* “to bite” may be related. In terms of PWS this and the preceding determinative are from different roots, *du* “bite”, *tù* “build” however. Mutation of sound and meaning.
***T = d** ***U = u** ***G = k**

gada **determinative for linen.**
PWS *ta, tan* “cloth”, “cotton cloth” (indigenous). Guang *ké-tá* “cloth”, Temne *k-ō-ta* “cloth”. Sumerian *g = k* and *d = t*. The “prefix” *ga* may be PWS *ka* “hand”, *ká* “cut”, compare also *kan, kal* “mat”.
***K = g** ***A = a** ***T = d** ***A = a**

gi **determinative for reed objects.**
PWS *gi* “vein, root”, also PWS *gi* “cut” (“cut reeds”), also *gi* “knife”, *gi* “guinea-corn”, *gí* “tree”.
Niger-Congo uses a small number of roots for various applications which are well seen in this example. The primary word is probably *gi* “knife”.
***G = g** ***I = i**

gu₄ **determinative for bovids**

PWS *ku* “stomach”. Sumerian *g = k.* (or else PWS *ku* “big, male”).

The word for “stomach”, often in the extended forms *kuli, kudi, kuri,* is used in Niger-Congo languages for various types of edible quadruped, “cows”, “dogs”, “rats” etc.

***K = g** ***U = u**

ĝiš **determinative for wood, objects of wood**

PWS *ǥí, ǥíl, (ǥít)* “tree”.

Sumerian *ĝ* incorporates a velar nasal, presumably derived from a *k-* prefix such as the *ku* seen in Togo Remnant. Compare also Nso *ke-dji* “tree”. The Sumerian *š* is from *t.*

***G = g** ***I = i** ***T = š**

i₇ **determinative for rivers and canals *(id)***

PWS *ǥi* “water”, Mano *yi* “water”, Gbe *yi,* Mwi *yi* “water”, PWN *LINGI* “water”, Bantu (Meinhof) *ɣî, keɣî* “water”. PWN *L = d.*

The Sumerian form has lost the initial consonant, probably due to a nasalisation induced by the *k* prefix. Compare Grebo *yidi* “dark, black, blue” (colour of water). Sumerian *íd-a* “river, canal”, *idim* “source, subterranean water”. There is an old word for “water” *di* perhaps seen in *madi, wadi* etc. Ngombe has *madiba* “water”, Bangi, Ngala, Poto *mai* “water”, Lolo *basi* “water”, Kele *balia* “water”.

***G = #** ***I = i** ***D = d**

iku **determinative for surface measures**

PWS *kuì* “big, much”, Bulom *a-kpil* “many”.

The Sumerian leading *i* is probably from a form such as Tschi *pì* “much”, with loss of the initial consonant.

***K = k** ***U = u**

im **determinative for winds and tempests (*tu₁₅*, *tumu*)**

PWS has *tí* “to take”, *tú* “to take”. Sumerian *im* has lost the *t.* PWS *tum* “to send”.

The forms *tu₁₅* and *tumu* are probably from PWS *tú* “to take”, Nyangbo *tu-kú* “ to take”, and PWS *mu* “to catch”, “to sieze”. The wind was thought of as “snatching things away”. PWN *TU, TUM* “throw”.

Johnston (1922: 416) has *dundu*, dulu** (226), also *dimu** (17), *timω**, *umu** (132), all meaning “wind”.

***T = #** ***I = i** ***M = m**

im **determinative for earth and clay objects (*imi*)**

PWS *li, (d.ì)* “dig”, PWN *DIM* “darkness”, PWS *ti* “black”, Wolof *tīm* “be black” , Central Sudanic: Mangbetu *di* “dung” (Greenberg).

Earth is black. But the old word for hand *di* may be relevant, as earthen objects are moulded by the hand.

***T = #** ***I = i** ***M = m**

iri **determinative for towns (*uru*)**

PWS *li, lu* “head”, Grebo *du, lu,* “head”, Yoruba *o-rí* “head”, Igbo *e-lu* “top, summit”.

Towns were originally built on top of hills. Note also the expression “capital city”, incorporating the Latin word for “head”.

***L = r** ***I = i** ***L = r** ***U = u**

iti **determinative for the months (*itu*)**

PWS *tì* "open, close", PWS *tí* "middle", *ti* "black", *ti* "head" , Bantu *tu* "head", Akpafu *í-tì* "head ". Or the reference may be to *ti* "small", the month being a small part of the year. Maori uses *iti* for a "small period of time". PWN *TÚI* "head", PWN *TI, TITI* "middle".

It is better to compare *ti, tu* with PWS *tùà* "to cook" however. Moon & Sun were fire.

Afro-Asiatic : Chad : Ngizim (1) *tira* "moon", Sarwa *tile* "moon" has the root *ti.*

***T = t** ***I = i**

kaš **determinative for alcoholic drinks**

PWS *ka* "hand", also *ka* + nasal "to press" (of milk etc), *kà* "sorghum", *kàn, kal,* "bread". Dagomba *kamse* "press".

Beer was originally made by fermenting lightly baked bread in water. Compare Temne *kanti* "to open", *kanta* "to close", for *t > š.*

***K = k** ***A = a** ***T = š**

ki **determinative for placenames**

Bantu *ki* "country". Discussed above.

***K = k** ***I = i**

ku₆ **determinative for fish (*ḫa, kua*)**

PWN *KHIUNI, (KHUINI)* "fish", Soko, Kele *swi* "fish", Ngomba *sui* "fish", Ngala, Poto *nsu* "fish", Lolo *nsui* "fish", Bangi *ncu* "fish".

The word *ḫa* "fish" is from **hua, kua*. Sumerian *ḫ* is from *hu, ku, kw*. Compare the Bariba form *sũã* "fish", Proto-Bantu *swe "fish"

The original words *ku, ka* referred to the use of the hand to catch fish.

***K = k** ***U = u** ***K = ḫ** ***A = a**

kuš **determinative for leather objects**

PWS *ku, kua* (+ nasal) "skin", "leather".

For Sumerian *š,* which comes from *t,* see Kilina *gbant* "skin".

***K = k** ***U = u** ***T = š**

lú **determinative for professions and official positions**

PWS *lu* "head". The word refers to men, animals etc.

"Head" has a long history as a metaphor indicating leadership, importance, chiefly position etc. The head was particularly important in Africa. Hence it tended to be enlarged on works of art.

***L = l** ***U = u**

meš **determinative for the plural (*me*)**

PWS *ba* "they" is the Bantu personal plural suffix third person. The nasal forms of this suffix convert *b* to *m,* giving Bantu *ma-*. Guang *a-mẹ* "they", Tivi *m-ba* "they", Bowili *má* "they", Akpafu *ma* "they", Kposso *ma* "they".

Ruanda has *wadi* "they" (from *badi), which is unusual, but may explain Sumerian *š* of *meš,* which normally comes from a dental, *t > ts.* The change of *a > e* is common in Niger-Congo. So we have identified a Bantu-type "plural prefix". In Sumerian however it is isolated, and does not have a corresponding singular. Compare Afro-Asiatic. Another possibility is that *–š* is from N-C plural suffix *–ki*

***M = m** ***A = e** ***D = š**

min **determinative for doubling, "two".**
PWS *bí* "female breasts" (occur in pairs).
The Sumerian form is a nasal grade of *bi* (compare *m-bi* "dew") with a truncated suffix *–ni* "few", seen on *bi-ni* "children" etc.
***M = m** ***I = i** ***N = n**

mul **determinative for stars and constellations**
Mande *lolo, dolo,* "star", perhaps connected with "Bantu" *lω* "night, sleep", PWN *DO,* "night", PWS *la* "to sleep",V Bulom *lol* "sleep", Krim *lo* "to sleep", Kissi *lo* "to sleep".
The personal plural prefix *mu* may be attached in Sumerian to the word for "night or sleep". But the root vowel has been lost. On this interpretation the "stars" were "night people". I reject this possibility as unlikely, particularly because it involves converting a prefix (unaccented) into a root.
Note that PWN has *MUAL* "to shine" [*ua* > *o*], PWS *man, mal* "flame, flaming", "light". Possibly earlier *mulal ? If *mal* is original then Sumerian *u = o* here (as scholars have thought), and *mal* > *mol* in Sumerian. [Homeric Greek has *en nuktos amolgo* "in the deep of the night" (of the blazing firmament).] But Bantu has *mudi* "bright, torch".
***M = m** ***U = u** ***L = l**

munus **feminine determinative (*mí, sal*)**
"Bantu" *ωmuntu* (132), *bωmutu* (133), in Johnston (1922: 418) gives a Central Congo basis for this word: **-munut-* > **-munus-*. The root is PWS *ni, nu* "person", with prefix *mu*. The *t* > *s* is from *tu* "person".
The forms *mí* and *sal* are from PWS *bí* "female breast" and *ka* "small, woman". Sumerian *s* comes from *k.* The *l* is a residual article. Afro-Asiatic : Chad : Cheke (3) *min* "woman" (Greenberg) with Karekare *men* "wife". "Feminine" is not recognised as a Niger-Congo prefix category.
***M = m** ***U = u** ***N = n** ***U = u**

mušen **determinative for names of birds**
"Bantu" has *-señ* for "bird" (230,231) in Cameroons-Cross River languages (1922: 256). The *mu* is a prefix used as plural of persons. Either here it refers simply to animates, or else the bird was regarded as a person (bird ancestors). The final *n* may be for *nu* "bird" or "person".
***M = m** ***U = u** ***S = š** ***IA = e ?**

na₄ **determinative for minerals (*ia₄,, za*)**
PWS *ná* "fire". Minerals were extracted with a furnace. Nasal grade of root *tá* "fire" used in placenames connected with the mineral trade. Sumerian *na₄* is used for "stone" (< *ta*).
The form *za* must be from *tá.* Guro has *tje* "fire", with affrication of the *t*. A similar explanation may apply to *ia₄.* Johnston (1922: 296) mentions forms in *sa*. In fact *ia₄* may be from *pia* "fire", with loss of initial *p*. Old root *bi "fire".
***N = n** ***A = a** ***T = z** ***A = a**

nisig **determinative for herbs (*nissa, sar*)**
I derive this from Johnston's (1922: 309 - 310) *nyasi* and related forms. A number of his words end in *ki,* eg. *nyaki, yaki, yagi,* etc. He also has forms for the word "grass" in which the syllable *sa* is prominent, not to mention *sara* (9a).
***N = n** ***I = i** ***K = s** ***I = i**

sig **determinative for wool (*sík, siki*)**
I suggest the hypothesis that the word for "wool" is connected with *suki, sisi* (Johnston 1922: 314-315) "hair". Words for "thread", and *ki* "needle, sew" are probably related.
***S = s** ***I = i** ***K = g** ***I = i**

še **determinative for cereals**
See PWS *ti* "head", Nupe *e-ti* "head", Igbo *i-si* "head", Bantu (Meeussen) *tue* "head", Etuno, Ebira, Gade, Asu *ti* "head of sorghum" (Nigeria). Alternatively the word may be from PWS *te* "cut", referring to harvesting corn. This is more likely.
***T = š** ***E = e**

šim **determinative for perfumes (*šem*)**
Johnston (1922: 358) has *şi* "nose" (131), *sini* "nose" (268). One is reminded of Afro-Asiatic Chad: Klesem *siŋ,* Sukur *šin,* Cushitic: Kamir (C) *esiŋ,* Afar (E) *san,* Egyptian *snsn* "to smell". Probably a very old root. But cf Lolo *jici* "smell", Ngombe *su* "smell", Kele *liti* "smell", with *c* or *t* > *s.* Kongo *zunu* "nose".
***T = š** ***I = i**

túg **determinative for cloths and clothes**
PWS *tú* "to take", Avatime *tu-ku* "to take", Nyanbo *tu-kú* "to take", Santrokofi *tu-ka* "to take", "to carry".
***T = t** ***U = u** ***K = g**

ú **determinative for plants, and vegetables**
PWS *pú* "bush, field, plantation", Dagomba *pú* "field", Gbari *a-pulu* "bush", Beri *ku-pu* "bush", Guang *i-putu* "bush", "steppe".
***P = #** ***U = u**

udu **determinative for sheep**
PWS *li, lu* "head", PWS *lu, li* "cow antelope, cow" (also Mn *d.i* "cow", Gio *d.u* "cow", Grebo *du, lu* "head"). The word is also used of "men" *lu* in Sumerian, and to mean "many" (so many "head"). Both *lu* and *–du* are used of "sheep" and "men" (*dumu* 'child"). And *udu* also refers to small cattle. So a derivation from "head" is plausible.
***D = d** ***U = u**

urudu **determinative for objects of copper and bronze (*urud*)**
Bantu has *gandu* "copper, brass", PWS *tu* "iron, metal", Alagiang *pru-tu* "iron", Ahlo *í-d.u-tu* "iron", Kposso *u-tu* "iron". But see PWS *tù* "to strike, to knock", PWS *tú* "to ooze out" (on the ground), even PWS *tu* "water" and PWS *tùà* "to roast". These words are all concerned with metal casting. Compare PWS *kut* "iron", Animere *du-kutu* "iron".
***T = d** ***U = u**

uzu **determinative for body parts**
PWS *lu* "head", PWS *lu* "knee" may be relevant (*lu* > *du*), but also PWS *tù* "to heap up". I assume Sumerian *z = ts/dz.*
Afro-Asiatic has Chad: Buduma (2) *su,* Barein (9) *su* "meat". Probably from **tu.*
***T = z** ***U = u**

zíd **determinative for flour, meal (*zì*)**
PWS *lí* "meal", "corn paste" etc. Tobote *i-di* "meal", Gurma *í-di* "meal", Gola *e-d.ī-d.a* "guinea corn". PWS *lì, (di)* "eat".
The last two determinatives suggest that Sumerian *z* may be from PWS *t/d* (retroflex).
***D = z** ***I = i** ***D = d**

It is very significant that where several determinatives exist for a single category, they can all be accounted for in terms of Niger-Congo. Further the large number of determinatives (over 55), which exceeds the conventional number of Niger-Congo prefixes, shows the original system of classifiers was larger. Noteworthy is the existence of alternative classifiers or alternative forms (phonetic developments) of the same classifier (doublets). In some cases a CVC form coexists with a CVCV form, indicating vowel loss due to a stress accent. Of 20 words with two (or more) vowels 15 (75 %) had two identical vowels, which indicates a strong tendency towards **vowel harmony**. Niger-Congo had vowel harmony.

Overall vowel frequency : *a* 12, *e* 6, *i* 28, *u* 18. As the Niger-Congo hypothesis predicts, *e* is poorly developed. One suspects *o* is very rare, if indeed it exists at all. In Niger-Congo however, *a* is the most frequent vowel. In PWS *o* is rare.

The Determinants represent all the Sumerian consonants. This shows :
(1) They are really Sumerian (not a related language)
(2) They are not Prefixes. Prefixes normally have a restricted phoneme set.

Particularly significant is the fact that all these determinatives are **nouns**, which supports our argument that verbs derived from nouns. The determinants are mainly obviously concrete, very old, and almost obsolete. Compare Egyptian which also has verbal determinatives, and may be later. Most Sumerian determinatives belong to a period when farming (canals, livestock, cereals, gardening, textiles, bronze utensils) was the basis of a highly organised economy.

See Aikhenvald (2003) for a typology of classifiers. She does not discuss Sumerian, Egyptian etc, but recognises classifiers of various word classes other than nouns.

Matchings on such a big grammatical system is strong proof of a genetic relationship between Sumerian and Pre-Proto-Niger-Congo. It is noteworthy that the Sumerian classifiers, unlike the Niger-Congo prefixes, are semantically transparent, like full words. Their origin is not in doubt. But they do not show reduplication, as is common in the Niger-Congo prefix-classifiers. This may indicate that, in a sense, they are grammatical elements. But other explanations are possible. *Dingir* is suffixed with *–r.*
The few Afro-Asiatic derived classifiers appear to have developed out of Niger-Congo.

NOUN PHRASE

"The nominal head words and their adjuncts stand at the front of the Sumerian sentence. All noun adjuncts appear to have come from Niger-Congo nouns, with various accentual changes and weakening of the original full meaning".

Heine (1980 : 100) : "There is justification enough to assume that Proto-Niger-Congo used noun class prefixes"; (108) "Noun class prefixes are incompatible with an SOV syntax." Givón (1979) ; "Languages either do or don't show certain morphological or frozen-lexical features that can be demonstrated reliably to arise only under an SOV morphology." Gregersen (1977 : 113) : "The tendency towards an isolating structure devoid of noun classes in Mande, Ijo and Western Kwa is undoubtedly secondary."

Nouns

The Sumerian noun is immutable, having neither Ablaut nor internal modification. In this it differs from the Arabic noun for example. Most nouns are monosyllables : *da* "arm, side", *ga* "milk", *pú* "well, cistern". However amissable Auslaut consonants may follow CV, and there is also evidence for lost preceding syllables in some cases. The noun (like the verb) may be reduced to a single vowel : *a, e, i, u.* This suggests a strong stress on the root vowel. Fluctuations of vowels occur : this affects tamber and length. Thus *a* "father" is also written *a-a* (which may denote rearticulation, or a long vowel *ā*). Alternation of *e/i* is common. Also *e/a.*

Combinations of elements also serve as nouns (Bord 2003 : 33, Grammaire).
eg. *dub* "tablet" + *sar* "write" = *dub-sar* "scribe"
dumu "infant" + *saĝ* "head" = *dumu-saĝ* "senior".

Derivative Nouns

The prefix *nu* is used to form nouns indicating professions and functions.
nu + ^{ĝiš} *kiri*$_6$ "garden" = *nu-* ^{ĝiš} *kiri*$_6$ "gardener"
nu + *saĝ* "head" = *nu-saĝ* "governor"
This *nu* is thought to be a phonetic variant of *lú* "man". In fact PWS *nu* means "man, person" and is probably a nasal grade of *lu "cow" etc. The noun which follows *nu* in Sumerian appears to be a genitive.

The formant *nam* is similarly used, but to make abstracts.

eg. *nam* + *lugal* “king” = *nam-lugal* “royalty”
It is thought to be derived from the verb “to be”. This also fits a Niger-Congo interpretation. PWS *nà* “to be, to remain” + Sumerian *me* “to be” < PWS *ba* “be in a place”.

A third element *níĝ* is employed as a prefix with nouns, adjectives or verbs, to make concrete nouns.
eg. *níĝ* + *ba* “to give” = *níĝ-ba* “gift, present”
PWS *ní* means “to be something”, compare PWS *ni* “this”. Now Malinke *nĩŋ* means “this”. The velar nasal suggests the presence of a velar corresponding to Sumerian *ĝ*.

Gender
Sumerian normally uses natural gender, ie. masculine and feminine.
eg. *lú* “man” and *munus* “woman”
lugal “king” and *nin* “queen”

However distinctions of gender may be made by adding words for “female”
eg. *dumu* “son” + *munus* = *dumu-munus* “daughter”
diĝir “god” + *ama* = *diĝir-ama* “goddess”

Plural
The plural markers differ according to whether the noun is animate or inanimate. The first category includes gods, men and slaves, the second objects and abstracts. Pluralisation by reduplication has already been dealt with under TYPOLOGY.

The usual animate suffix for the plural is *–ene*. It is used where the singular has the ergative suffix *–e*.
lugal “the king”, but *lugal-e-ne* “the kings”.
This suffix may even be added to reduplicated plurals. It resembles the *–ni, -ne* used as a plural suffix in Mande languages. Compare the familiar “Fulani”, the Fula people.

For inanimates the suffix *–<u>h</u>i-a* or *–<u>h</u>á* is used. This is a form of the word *<u>h</u>i* “to mix” (so Bord) and means “many of ”.
udu “sheep”, *udu-<u>h</u>i-a* “the sheep” (pl), diverse kinds of sheep.

We suggest however a connection with Niger-Congo *ki “small”, possibly also with PWS *gi* “to cut”. The Mande plural in *–ki* may also be relevant.

Another plural is in *–me-eš* or *–me,* which is based on Niger-Congo *ma,* used for plurals.
eg. *lú-engar-me-eš* "the farmers"

We also have the suffix *-didli* "numerous", based on Akkadian. This may well be related to Niger-Congo *titi* "small".

All these plurals are postposed, like the plurals in Mande languages. Their variety and imprecision in meaning is typical of Niger-Congo.

Adjectives & Adverbs

The adjective does not differ in form from the noun or the verb. The division between adjective and verb is fluid: some adjectives can be used as verbs.
eg. *gibil* "new", but also "to renew"

Both Gragg and Thomsen suggest that the Sumerian adjective is a subclass of the category of verbs. However the primary adjectives such as *gal* "big", *maḫ* "great", *tur* "small" do not come from verbs and cannot be followed by the morpheme *–a.* Secondary adjectives can be derived from verbs: *gibil* "new", *dùg* "good".

The suffix *–a* placed immediately after the base, likewise indicates the adjective.
eg. *kalag* "to be strong", *kalag-ga* "strong".

I identify this suffix as the Niger-Congo article *–la, -a, -al* etc.

The adjective normally follows its noun. But *kug* "pure" always precedes the nouns which it qualifies. It should prehaps be regarded as a noun with following genitive, or else it is fronted. Possibly the word comes from PWS *-kùkù* "pigeon".

The superlative appears to be formed by repeating the adjective.
eg. *gal-gal* "the greatest", *kal-kal* "the most valuable" etc.

The adverb may be expressed by the base alone. Certain adjectives normally have no suffix.
eg. *aš* "uniquely", *gal* "greatly", *zi* "rightly".
But usually the adverb is made by a postposition.
eg. *–bi, gal-bi* "greatly" [Compare Greek *iphi*].
-eš, gal-le-eš "greatly"

-bi-eš, gibil-bi-eš “anew”

-a-bi, after a verb, *húl-la-bi* “joyously”

In the last example addition of an article, *-a,* converts the verb to a noun. Compare the expression *á-še* “at least”. Also *a-da-al* “now”.

Interrogative adverbs of place and time are formed by means of *me* and a postposition.

eg. *me-a-ta* “from where ?”

me-da/na “when ?” and so on. The *me* originally referred to place or time: PWS *be* “time”, PWS *bia ,(ba)* “place”.

Numerals

From the time of Trombetti numerals have been regarded as particularly important in establishing genetic relationships. The problems regarding Sumerian are particularaly acute in the matter of the numerals. But some light can be seen at the end of the tunnel.

ONE

Sumerian numerals for “one” *diš, deš, dili; aš, (aša, ušu); ge* are all explainable as Niger-Congo. Mande MN *dᶦeli, dᶦele* “one” (Delafosse 1929 : 273).

a) *diš* etc. Johnston quotes *di, de, ti, te, deke* etc as “suffixes” used with words for “one” *mu, mō* etc. But the “Bantu” suffixes were once full words. The *–š* is from original *t.* Probably old words for “finger” or “head”. Ruhlen posits *tik “finger” as one of the earliest words of mankind.
b) *aš, aša, ušu*. Johnston has *ka, za, sa, ha, da, lika, luka, kada, kaşi ,keke, aşi, dü, itu, guma, wuma, a-huma, bul* etc. Often a monosyllable is reduplicated. We regard *ka* and *gu/hu* as good candidates here. The meaning is again “finger” (“hand”).
c) *ge*. The root *ka > ke (ga, ge)* explains this item which probably was *ke.* PWS *ka* “finger, hand” etc. Compare Sanskrit *ekas* “one” (Indo-European).

TWO

Sumerian *min* “two”, can be derived from PWS *bí* “female breast(s)” by prenasalisation, compare Likpe *le-mí* “woman’s breast”. Southern Bantu (Johnston 1922 : 466) has *mbire, mbidi* (68, 69, 70) with prenasals. Numerals were not abstract. They came from concrete nouns. PWS *bà* (from *ba* “arm”) is likewise used for “two”, Mussu *m-ba* “two” > Sumerian *ma* “two”. Johnston quotes (1922 : 465) *bali, bari, bani* “two”. Hence the final *n* of *man* (with final vowel loss). Mande *fila* “two”.

THREE

Sumerian *eš* “three”. The common Bantu word for “three” is *tatu, tati, satu,* also *setu, sas.* As Johnston says, the *t* may be aspirated to *th* (>*ts, s* > *#*).

FOUR

Sumerian *lim, limmu* “four” is more challenging. But PWS *ni* “four” is the basis, again from “hand” (of four fingers minus thumb), Yoruba *e-rĩ* “four”, Okuloma *ini* “four” (from *lini*), but with the addition of PWS *mu* “inside”, indicating exclusion of the thumb. We assume *linimu > *linmu* > *limmu.* Poebel also gives *lammu.* Compare III Ahlo *à-là* “four”, Nyangbo *é-lɛ̄* “four” (from *na, nan* “four”, Westermann). Johnston (1922 : 468) says the “*n* of the root passes into *l*,” esp. in Fernandian. V Nalu has *nam* “four” (with *–m*). Sumerian *gunni* “four” has root *ni*,with a prefix (perhaps = *ku* “hand”, or “big”).

FIVE

Sumerian *i-* “five” (compounds) from PWS *nú, (ní)* “hand” (five fingers), Temne *ní-ka* “finger”. The fuller form in Sumerian is ia_2 , which has lost both the consonants seen in Temne. Mande has *nāni* “four” (four fingers to a hand).

SIX

Sumerian $aš_3$. “six”. The frequent reduplication of *tatu* (*ntatu-ntatu* ?) to express “six” in “Bantu” (East, West Central, etc) suggests $aš_3$ is from a reduplication *ta-ta, tha-tha, sa-sa* etc. , with loss of initial *s, š.* The word became homophonous with “one” *aš,* from *ka(š).* Both initial *k* and initial *t* were assibilated and lost. Poebel however takes *āš* “six” as from *ia-aš,* following the pattern of numbers above “five”. Compare the comments of Delafosse (Mande):

Delafosse : “Il est probable qu’ à l’origine il n’existait pas de mots spéciaux pour les nombres 5, 7, 8 et 9, qui devaient s’exprimer par “cinq et un, cinq et deux, cinq et trois ...”.

SEVEN

Sumerian *imin, umun* (< *ia-min*) “seven”. That is “five” is added to “two”. The form *umun* can be explained as from Niger-Congo **bu* “arm”, compare PWS *búá* “arm”, “hand”, also PWS *pu* “ten” (two hands). The vocalism of these words exhibits vowel harmony. Niger-Congo has frequent interchange of the vowels *i* and *u*.

As in Niger-Congo the “hand” was the numerical basis. Thus “six” is “five + one”, “seven” is “five + two” and so on.

EIGHT

Sumerian *issu* "eight", consisting of *i*-"five" + *su* , from *tatu, satu, ratu, thathu* (Johnston 1922: 467) "three".

The first syllable appears to have been lost, or possibly reduced to *s* (+ *su*). We therefore posit an original **ni-tha-tu* to explain this word.

NINE

Sumerian "nine" is *ilimmu,* that is *i*- "five" + *limmu* "four" (see under "four").

TEN

Sumerian "ten" is *u* (zero consonant) which may come from PWS *pu* "pair of hands", with initial consonant loss. There is also a form *a* "ten" (Wanger), which must be PWS *ta* "hand" or *ka* "hand" (or *ba* "hand" ?), again with consonant loss. Different Mande languages have *fu* < *pu, tan* < *ta-n* for "ten". If we replace lost consonants good progress can be made with Sumerian. Sumerian also has *<u>h</u>u, <u>h</u>a* "ten", with retained fricative grades [*<u>h</u>* = *χ*] of the initial consonant. If this valeur for *<u>h</u>* is correct however, *u, a* should be from *ku* 'hand" (old word) and *ka* "hand". And we forget the Mande words as a possible source. The root *KU means "increase, big" in Bantu (Guthrie). Two hands have ten fingers. Hence the numeral.

Johnston (1922: 475-476) quotes Bantu *kumi* and *kama* "ten"; the same roots are used for "one hundred". On p. 481 he mentions *–kuru, -kur* "ten", on page 480 *–tuku* "ten". Bender's Nilo-Saharan *kV* "not", with *ka, ku* reflexes may be relevant. Compare his remarks (Heine & Nurse 2000: 67) on **kon*- (Kunama *ukun*-). A monosyllable *ku* "ten" was original.

"Bantu" Numbers "one", "four", "five" sometimes have a final *–ka, -k* (Fulup *tōk, tak*), attached, says Johnston (1922). This is perhaps to be identified with the "genitive" *–ak* attached to Sumerian "four", *limm(u)-a(k),* mentioned by Poebel (2005/1922 : 107, note β). See also Westermann (1927 : 229) "*ka* konjunctiv Partikel". Delafosse (1929 : 419) gives *ka* as a postposed possessive particle in Mande. If this identification is correct we have a fossilised **syntactic** particle as evidence for a Sumerian-Niger-Congo relationship.

The numeral is placed before the noun in economic texts (Bord 2003: 43), but after the noun in historical documents. Compare the situation in Egyptian where the numeral follows the (singular) noun in written documents, but precedes it in actual speech (the noun being plural for low numbers, but singular for high).

The noun to which the numerals apply is always singular. The explanation is that the preposed numerals are nouns, followed by a genitive. This pattern also occurs in Niger-Congo, particularly with very low numerals (Stapleton 1903 : 110, Ngala, Kongo). The postposed placement treats the numeral as an adjective (Stapleton 1903 : 109).

It is noteworthy that the lower Mande numerals are not the same as the Sumerian, which uses a very old system based on 1 – 5 (hand). Many different methods were used in Africa.

TWENTY

The word for **"twenty"** is *niš* , compare PWS *ni* "four" (four hands), also PWS *ni* "person, man" (a man has twenty fingers and toes). Note that Wolof has *nit* "man", Uwet has *o-nut* "man". So Sumerian *–š* is from original **t*. For "man" = "twenty" see Johnston (1922: 479).

SIXTY

The number **"sixty"**, *ĝíš,* is particularly important in Sumerian. I suggest this is related to PWS *gì, (gì)* "two" (two lunar months = 60 days). The root *gi* is also used for "half".

Ordinals are formed by adding the genitive marker *ak* + pleonastic genitive : *min-ak-àm* "the second". Distributives have the suffix *–ta,* compare PWS *tá* "count", "enumerate". Multiplicatives are formed by preposing *a-rá* : *a-rá diš* means "once".

The same *a-rá* is used in Sumerian as a multiplier. Thus

limmu a-rá min ussu

"4 x 2 = 8".

Mande for "part" is *tara.* One is reminded of the Egyptian use of *r* "part", represented by an EYE pictograph, to express fractions : EYE over 11111 stands for "one fifth". Multiplication was originally performed by adding rows of pebbles etc. The Niger-Congo language Yoruba (Kwa) *ro...mo* means "add". Cretan Linear A has *KU-RO* "big total". PNC *la "hand, leg" (knife, throw).

Sumerian fractions were expressed, inter alia, by framing the numeral with *igi...ĝál,* literally "eye...to be", for example

igi ía ĝál

"one fifth".

The similarity to the Egyptian system (based on the divided "Eye of Ra") is striking. The Eye of Ra was torn out, leaving the god incomplete (like a fraction). Cretan Linear A appears to use a similar system (EYE pictograph with pendent strokes) for fractions.

Demonstrative Pronouns

The Sumerian demonstratives occur as prefixes or suffixes or independently. Most are suffixes. Niger-Congo tends to use demonstratives predominantly as suffixes.

The most common Sumerian demonstrative is suffixed *–bi* "this". Poebel (2005/1922: 83) regards this pronoun as referring to something distant in time and place, or something previously mentioned. This is PWS *bí* "somebody, a person", PWS *bia* "place, here, there, yonder". Johnston (1922: 462) gives *pi* as referring to the third or furthermost position only. Bantu has noun class prefixes 8 *bi* and 19 *pi*. The noun class prefixes come from demonstratives.

lú-bi "this man"

Another example given by Hayes (1997: 19) is *ne-en, ne* "this". It is used independently, as a prefix or as a suffix. PWS *ni* "this", Dagomba *nyí-ne* "this" and *na, (ne)* "this" are the basis for *ne-en, ne*. Johnston (1922: 462) gives *–eni-, -ene-, -ni-, -ne-*; also *na-, ni-*.

lú-ne "this man"

The suffix *-ri* "that" is relatively rare. Bantu prefixes 9*ini*, 10*ilini* (Meinhof) are comparable. Sumerian *ri* is Niger-Congo *li, ri, di* "that", "one", from *li* "head". Bantu prefix 5 *di* is related. Johnston (1922: 461) has *–ri-, -li-* (Nyanza, East Africa).

ud-ri-a "on that day"

Sumerian postposed (suffixed) *-e* is probably PWS demonstrative *lá*, which often goes to *le* > *e*. Poebel (2005/1922: 81) mentions the combination *lù-e* "this person". This suggests the postposed Niger-Congo demonstrative/article *–la*. It has been observed that this suffix is formally identical to the ergative agent. Indeed PWS *lá* and its variants is used as an agent marker. Johnston (1922: 461) has *-le-, -e, -e-, -we* (Ogowe, Fang, North Guinea). He mentions *–e-* for "this" in Dyola.

im-sar-ra-e "this tablet"

Sumerian suffix *–še* is also a demonstrative "that". It is related to PWS *tà* "thing" *(tsa)*, with *-t* > *-š*. The *e* is presumably from *a*. The ultimate concrete noun is *ta* "hand".

lú-še "the man there"

Sumerian demonstrative *hur, ūr,* ES *ur* (fem) "this, that, she" (Poebel 2005/1922: 84) matches Johnston's (1922 : 461) *ku* (131), *kull* (261), see also *cu* (p. 460), *su* (20, 20d) and *hu* (13, 16, 21 to 21g, 72), "usually meaning 'this' " (remote). Compare Bantu prefixes 17 *uku* "outside" & 20*uγu* "pejorative" (Meinhof). No 15*uku* is used with infinitives (= nouns). The final *–r* may be a Definite (or an old plural, which is less likely). Bord (2003: 40) lists "La particule ur_5" used with inanimates to mean "this".

Poebel (2005/1922 : 84 etc) notes the use of a pluraliser *–meš* on these demonstratives. We derive this latter from Niger-Congo *ma* used as a plural, (+ *ti* "small plural"?) as found attached before Bantu nouns. Compare PWS *kuì* "many", PWS *gì(gì)* "two" (plural). But note that Haussa has a plural suffix *–ki* on some nouns (*gona* "champ", *rana* "jour", so Homburger 1929 : 33). Bryan (Africa 1959) distinguishes T/K singular/plural pronouns in Nilo-Saharan. These recur in Bantu prefixes 5*de* sg and 6*ga* pl. So a serious decoding problem exists here. In Sumerian however *š* consistently comes from a Niger-Congo dental *t.*

Johnston comments that the "Bantu" demonstratives are largely indistinguishable from the prefixes and pronouns. Many are subject to preprefixation, which we interpret as vestigial reduplication. Triplication is not unknown. Compare Sumerian *ne-en* (*ne-ne-ne ?).

Personal Pronouns

The personal pronouns can also be used to determine genetic affinity. Sumerian has :

	Poebel	**Hayes**		**Poebel**	**Hayes**
1. "I"	*mae*	*ĝa_2-e*	"Mine"	*-mu*	*-ĝu_{10}*
2. "Thou"	*zae*	*za-e*	"Thine"	*-zu*	*-zu*
3. "He, she"	*ene*	*e-ne*	"His, Hers"	*-(a)ni*	*-a-ni*
"Its"		*ur_5 (?)*		*-bi*	*-bi*

Bantu (Johnston 1922 : 448ff) has (inter alia) *ma, mā, mba, mbai,* which provide a basis for Sumerian *mae*. ES *me* "I". The form *mu* is also common. PWS *má* "this", Ahlo *má-mi* "this". Johnston quotes *Ñgame* "I" ; compare Hayes' *ĝa_2-e*. Johnston's *Kwame* has a labial element, thought by some to be represented by *ĝ.* Johnston also lists a "prefix" *Ñgu-* = *ĝu_{10}* . Congolese (Stapleton 1903 : 72) has Bangi, Ngala *ngai* "I", Poto *nga* "I", Soko *ngo* "I", Poto

au “thou”, Kele *ae* “thou”, Lolo *ende,* Poto, Kele *inde* “he, she”. See also his page 73, with comments on Ngombe *mbi, ni* (1 pers sg). Congolese has a huge range of these forms, with variation among languages.

Bender (Heine & Nurse 2000 : 61) quotes a Nilo-Saharan first person singular pronoun **akwai*, with an Ik form *ŋka* “I”. Fur has *ka* .But the overall resemblances are not striking.

For Sumerian “thou” compare Johnston’s *dye* (126, 221), *nde* (125), [Congo], *ndyau* [Ogowe] “thou”, with *lu, du, ndu* “thine”. ES *ze* “thou”. See PWS *li, lu* “head”, ie *di, du* “head”, also used as a demonstrative “that” and article “one”. Johnston regards *gu, ku* as “archaic” for “thou” in most Bantu languages. Bender has a Nilo-Saharan second person singular **ini*. This looks closer to No. 3 (following).

Johnston (1922 : 451) gives (inter alia) *ene, ena, ana* “he, she”. Also *adi, ai*. PWS *na, ni* “this”, with frequent prefix *a-*. Dagomba IV has *ŋi-ne* “this”.

There are reinforced forms of these pronouns with added *men*: *ĝá-e-me-en* “me, I am”, *za-e-me-en* “you, you are”, *e-ne-àm* “it is him”. This use of *men* has parallels in Bantu (Johnston 1922: 462) *me- me-ndi, mend’-*, used as a demonstrative. Johnston (1922: 448) lists forms of the personal pronoun with appended *–me, men* etc. Forms with *d* are common in the Bantu demonstratives.

The Sumerian plurals of these pronouns, according to Poebel, are *menden, mende, mede, meden* “we”, *menzen* “you”, *enene* “they”. It seems reasonable to treat these plurals as reinforced forms. They are derived, as often in Niger-Congo, from the singular. Originally singular and plural were not distinguished. PWS *–má(n)* is used to mean “people”, but PWS *má* “this”. Or from the verb “to be” ?

Sumerian *enene* “they” (Poebel 2005/1922 : 65) is used as a plural third person. This is reduplicated (plural, indefinite), perhaps triplicated (*ne-ne-ne). Compare the demonstrative.

These personal pronouns all derive from demonstratives, which were once nouns. Gregersen (1972) “Kongo-Saharan” observes that the personal pronouns of both Niger-Kordofanian and Nilo-Saharan incorporate a nasal consonant, with vowel change in the different persons. Compare Ful (Atlantic, N-C), Madi & Makere (Nilo-Saharan). Different languages used different pronoun deployments for “I”, “thou”.

Ful	**Madi**	**Makere**
mi	*má*	*ima, ama, ma*
ma	*nyí*	*imi, ami, mi*
mo	*aní*	*ine, ie, ne*

Ehret sets up Proto-Nilo-Saharan **bi* for the second person (Fur, plural; and Kuliak). This form is given as Sumerian for "its". Mukarovsky (1977) gives *BHI, MU* for "thou" in PWN. It is noteworthy that additional vestigial pronouns are not found after the verb in Sumerian, as they are in Arabic (eg *'i-ktib-i* "write") and French (*nous savo-ns*). See Meyer-Lübke (1921) on *savons = savo + n(ou)s* . For a preposed direct object we have Arabic : *šāf-ni* "(he) saw me".

Interrogative Pronouns

The animate interrogative is *a-ba* "who ?", the inanimate is *a-na* "what ?". Both of these are Niger-Congo : PWS *ba* "person(s), ie "someone", but *–ba-* "they". PWS *na* "this, that, the etc" (demonstrative). These Sumerian pronouns can be given a postpositive case or pronoun, or even declined (Bord 2003 : 40, Grammaire).

These interrogatives are related to Bangi & Lolo *na ?* "Who ?" and Upper River *ba-* "Who?" (pl). "What ?" is similarly expressed (Stapleton 1903 : 102 – 103). Details in Stapleton.

The indefinite pronoun (used of both animates and inanimates) is based on the inanimate interrogative, *a-na-me.

The enclitic copulas *me, men,* with case declension and verb, form interrogative expressions of place and time : *me-a* "where ?", *me-na-àm* "when ?" PWS *bi(a)* "place" > S. *me.*

Reflexive Pronouns

Sumerian uses *ni* with a suffixed personal pronoun : *ní-ĝu*$_{10}$ "me myself", *ní-zu* "you yourself". Compare Poto *nga mene* ""I myself", Soko *ngene* etc, which also prefix a nasal (Stapleton 1903 : 71). The *ni* is a PWS demonstrative (originally *ni* "man").

Postpositions (Cases, Infixes)

Postpositions are placed after a noun or nominal phrase (NP) to mark case. They are more or less equivalent to the English prepositions *by,with, from, of* etc. Most are monosyllables, CV, V or VC, CVC. Hayes includes the agent *e* and patient # markers among these.

Postposition	**Meaning**	**Case**	**Type**
e	agent	ergative	**core**
#	patient	absolutive	core
ta, t after vowel	from, by	ablative/instrumental	**adverbial**
da, d after vowel	with	comitative	adverbial
ra, r after vowel	to, for	dative	adverbial
a	in	locative	adverbial
e	by, at, in	locative-terminative	adverbial
še$_3$	to, toward	terminative	adverbial
gin$_7$	like	equitative	**adnominal**
ak, k after vowel	of	genitive	adnominal

Ergative

I derive postposed *e* (which marks a noun as agent) from PWS *kia* "to make", with reflexes *ke,* VI Chassonke *χe* "to make". In Sumerian the initial consonant has been lost (compare the fricative grade in Chassonke). In Mande languages this element comes at the end of the sentence. The ergative therefore has a lexical origin. Ultimately it comes from a word for "hand".

Absolutive

The absolutive (not an agent) is marked by zero #. (If one insists on zero markers).

Ablative/Instrumental

The ablative/instrumental is PWS *ta* "hand", which also means "take", "go", "give", "to extend". In other words the meanings "from" and "by" are grammatical specializations of a noun referring to a body part.

Comitative

The comitative *da* "with" must also be from PWS *ta* "hand" (prefixed ?). In many Niger-Congo languages the word for "with" is *na,* a prenasalised form of *ta* "hand", "give" etc. Sumerian *d,* as against *t,* is thought to be a voiceless nonaspirate [t]: whereas Sumerian *t* is thought to be a voiceless aspirate [th]. In other words we are still dealing with PWS *ta* "hand". Perhaps Latin *dāre* "give" rates a mention here. The PWS form *ta* has split phonetically and semantically into the related meanings I "by" II "with".

Dative

The dative *ra* “to”, “for” is connected with “road”, “go”, “foot”, (“give”). Chari-Nile (Nilo-Saharan) has Central Sudanic: Lendu *ra* “to go”, Mamvu *uro* “to go”, Kreish *lo*: “to go”. Eastern Sudanic has Merarit *la* “to go”, Masai *lo* “to go”, Ingassana *pala* “descend”, Bari *wala* “to go”. Bantu has *dond* “to follow”, Common Bantu *dà[nd]* “I follow”, also Bantu *denge* “leg, foot”. PWS has a nasal grade *na* “go”, “foot”, *ná* “give”.

Locative

The locative *a* “in” may be related to PWS *kà, kàl* “to remain”, with consonant loss. Johnston (1922: 488) gives *ka, ga, a* as words for “in”, in Bantu. The last of these occurs in (217) “Fang”. PWN has *KA* “home”. However PWS *la, (da)* “earth, under” is also a possible source with *d.* > *#.*

Locative/Terminative

The locative/terminative *e* “by, at, in” . Probably from PWS *(n)i* “in, inside”, Adele *a-ni, a-ne* “inside, in”, Dagomba *ni, ne,* “in”, Tobote *e.-n* “in”. Again there are other possibilities.

Terminative

The terminative *še*$_3$ “to, toward” partially resembles *ge-señ* “come” [*š* > *s*], PWS *ta* “to go”, Bantu *tamba, ,* with a tendency to change (simplify) the initial consonant.

Equitative

The Equitative *gin*$_7$ “like” may be from PWS *g i, g ia* “to be” (in a place). Compare Ngala *jinga* “like”, Bantu *nga* “like”. The original word was *gink/ga. Compare however PWN *GHI (GHIM),* “be alive”, *GHÍNÀ* “name”. PWS *ni* (+ nasal) “name”, Nyangbo *ki-nyi* “name”. The Sumerian *g* is assumed to represent [k].

Genitive

The genitive *ak* “of” is PWS *ka* “and, that”. Mande has a postpositive possessive *ka,* which matches this Sumerian element. The syllable has changed over from CV to VC, perhaps due to the presence of a prefix or of reduplication.

Origin of cases.

Givon (1979 : 214 etc) gives information about the etymological origin of case markers from body-parts or spatial concepts (with examples). On page 216 he derives others from serial verb constructions. But we have already seen that the verbs were once nouns.

Conjunctions & Interjections

Originally Sumerian did not have a copulative conjunction (Bord 2003: 45). It used asyndeton (zero conjunction) or expressions such as *–bi-da, -bi-ta* "with this" in suffix position with nouns or *(i)nga* "and then" or statements. Compare the Mangbetu interrogative pronoun *inga* "which, what ?" (Vekens 1928 : 41). PWS *ka* "speak" gives Sumerian *ga*. The *(i)n* is a pronoun : so "tell it".

eg. *me gal-gal an ki-bi-da* "the very great entities of sky and earth"
za-e in-ga-zu "you too, you know that"

Later the conjunction "and " is expressed by *ù* which is a loan from Akkadian. The same *ù* is used not only in the sense of "and" but also in that of "and then, but, further". When *ù* is used as a conjunction between two nouns it may have the sense "as well as". This conjunction is probably to be identified with PWS *kú* "and, with, accompany" etc. Compare Latin *cum.*

Sumerian has *tukum-bi* in the meaning of "if ". With the enclitic negative *–nu* the expression *tukum-bi* means "apart from".
eg. *tukum-bi nam.nar-nu* "apart from the art of singing".
The word *tukum* means "certainly, immediately". PWS *kiti, titi, tí* refers to the "middle" of the human body. PWS *tè, tètè* means "early, soon" in Yoruba. These words are related to *tu* "front of body" in Bantu.
Sumerian *ud-da* "on the day" has the sense both of "when" and of "if ". Niger-Congo *la, d.a* "day" is used to express "always", colloquial in English for "if ".
eg. *ud-da uru-še ì-du-un lú nu-mu-e-da-du-ù* "if you go to town, no one will go with you"

Interjections include *ga-na / ga-nam* "truly". PWS has *ka* "and, that", also *ká, kán* "to speak". Compare the English "yea verily".

The words *ùa, ù, a* mean "alas". Ewe *áì* is used of bodily pain (Westermann 1930 : 112). Sumerian also has *me-le-e-a* in this sense. Perhaps *me* is PWS *mà, (me)* "not" ("oh no").

Nominal Strings

Bord (2003 : 52, Grammaire) analyses the nominal phrase into four main parts.

Agent
Complements with directional postpositions
Object (subject in the passive)
Complement of Comparison (equative)

He gives a more detailed analysis of the parts which stand in predetermined order, whether all are present or not :

NOUN

Adjective epithet
Complement of the Noun (*rectum* of genitive + *ak*)
Pronominal possessive suffix
Sign of plural (*-ene*)
Postposition

An example : Noun + Adjective + Complement + Plural

diĝir-gal-gal-Lagaša^{ki}-a-ke$_4$-ne
"The great gods of Lagash"

Embedding and inversions of order do occur (Bord 2003 : 53). Elements can also be fronted for emphasis, and moved to the position before the subject. On occasion elements from the nominal phrase may be moved to a position after the verbal part of the sentence.

VERB PHRASE

"Sumerian verbal structures follow after their noun structures within the sentence. The verb itself is not formally distinct from the noun. We therefore derive the Sumerian verbs and their adjuncts from earlier nouns, which are less abstract and less complex".

Meeussen (1967 : 91) : "In Proto-Bantu productivity must have been from nominal to verbal, although in the present-day languages the direction appears to be the reverse."

Verbs may be simple or complex. Simple verbs consist of a verbal base alone. Complex verbs incorporate nouns and other elements (Bord 2003 : 57)
eg.
Noun + transitive verb
Noun + adjective + transitive verb
Adjective object + transitive verb
Nouns and noun combinations used in various ways (often adverbially) with verbs
Composite verbs made from two verbs (compare Niger-Congo serial verbs)

eg. *pa-è-aka*
"To make to rise brilliantly" (in splendour)
Lit. "To rise brilliant" + "To make"

Here *pa-è* is a composite verb with two parts *è* "to rise" (= PWS *kià, (ke)* "to be bright, to dawn") + *pa* "be brilliant" (= PWS *pa(-i)* "to be full", also PWS *pat* "sun", Karekare *pati* "sun"). But *aka* "make" is from *ka* "hand", and appears to have a Niger-Congo type vocalic prefix. So we are dealing with a survival from the days when the verb was still a noun, and was subject to accumulation by parataxis. No word for "and" originally existed in these agglutinations.

Verbs were classified by Jestin (1943 etc), cited by Black (2004 : 105), as "immediate" (achevées) and "non-immediate" (inachevées). The non-immediate (non-finite) verb has no prefixes, no pronominal elements, and employs only suffixes. One is reminded of Stapleton's dictum : "Nouns are formed by prefixes, verbs are formed by suffixes". Non-immediate verbs, as we will see, resemble the infinitives and participles (non-finite forms) of European languages. These are nominal forms of the verb, and were once much more common. They

reflect an early stage of language development, seen for example in Egyptian. Again evidence that verbs evolved from nouns.

The Sumerian immediate (finite) verb, by contrast, occurs within a string of prefixes and suffixes as follows. We print Meeussen's (1967 : 108) Bantu table of VERB ELEMENTS to compare with the Sumerian pattern..

Sumerian	**Bantu**
Modal prefix	Pre-initial
Conjugation prefix	Initial
Case prefix (Dimensional prefix)	Post-initial
Pronominal prefix	Formative
VERBAL BASE	Limitative
[Future suffix]	Infix
Pronominal suffix	**RADICAL** suffix
Syntactic suffix	Pre-final
[Postposition]	Final
	Post-final

The various prefixes ("conjugational", "dimensional" etc) attached to the verbal root in Sumerian can be explained, to some extent, by deriving them from Niger-Congo monosyllabic verbs. In Niger-Congo the phenomenon of serial verbs (several verbs used in sequence) is well established. Harry Johnston (1922 : 496) notes that verb roots often used as auxiliaries include "be", "come", "go", "finish", "do", "say", "appear", "extend", "wish", "stand", "sit", "know" and "can". The categories traditionally described as mood, tense, aspect, negative etc, may be regarded as ultimately lexical categories, deriving their diverse nuances from these primary verbs. Inclusion of particular elements is often optional.

The Modal prefix corresponds, to some extent, to the conjunctions and mood markers of more familiar languages. Delafosse (1929 : 265) puts the conjunction at the front in the Mande sentence, followed by circumstantials and adverbials.

Delafosse (1929: 204-205) states that in Mande the sequence in transitive verbal constructions is : "sujet, préfixe de conjugation, complement, radical verbale". On page 190 he states that the "suffix de relation" (Locative, objective, or causative postposition) attaches itself to the noun or pronoun complement, "s'accolant au nom ou pronom complément". These last may be the remains of an old Dimensional prefix system. Bord mentions (pg. 58) that rare

constructions do occur in which the prefix string is reduced to pronominal prefixes only. One is inclined to compare Bantu here, with its pattern : SO (clitic pronouns) + V.

Delafosse (1929 : 265) recognises elements after the verbal base : "complément indirecte du verbe, adverbe déterminant la proposition, le complément circonstantiel". Most of these are optional. But the indirect complement matches the Sumerian pronominal suffixes. For the future suffix see the following section. The general plan of the Sumerian verb phrase resembles that of Mande.

It is also worthy of notice that Westermann (1927 : 108, 12, 184) has a list of Togo Remnant verbal suffixes : *-ni, -mi, -li, -ri, -bi, -k, -t, -si, -s, -f.* He regards the meaning and identity of these as obscure. But should they not be identified as Niger-Congo noun "prefixes" appearing in final position. Basque (Trask 1997 : 88) has an arguably comparable list.

***Marū & Hamt.u* Forms**

The Babylonian Grammarians classified the Sumerian verb into two classes, based on a distinction made in their grammar. These terms *marū* and *hamt.u* apparently mean respectively "slow" and "quick". The *hamt.u* form is the base. In many cases the *marū* form is an extension of the *hamt.u* form. All verbs have a *hamt.u* form. Regular verbs, more than half of all verbs, do not have a *marū* form. In transitive verbal constructions both types occur. But intransitive verbal constructions (less verbal) have only the *hamt.u* form. The *hamt.u* form is obligatory in imperatives (the simplest type of verb). In the case of transitive verbs the tense categories **past** on the one hand, and **present-future** on the other have been identified with *hamt.u* and *marū.* Intransitive verbs however lack this distinction.

For a thorough discussion of these Babylonian terms, with a review of various authorities, see now Black (2004 : 99 – 119). His conclusions (p. 118 – 119) are rather conservative. He regards the *marū* form as marked : (1) used with the vivid "future" morpheme /ED/, indicating action not yet begun at the time of observation; (2) used after precative *hé-* (2nd or 3rd person); used after preformative *ba-ra* (negative/vetative) ; used after prohibitive *na* (2nd or 3rd person). Other uses are unclear. Is it a type of subjunctive/injunctive ? Uncertainties remain. The *marū* forms often drop the final consonant in reduplication, *ku(r) > ku₄ – ku₄.*

We regard the intransitive verbs as representing something closer to the original situation. Early languages appear to have emphasised aspect rather than tense. The transitive: intransitive distinction also appears to have developed relatively late. Witness the lack of

clarity regarding this in Mande. Verbs without a *marū* form cannot make tense distinctions. Such distinctions must have been originally lexical. The "non-immediate" verbal constructions likewise did not recognise tense.

It is clear from Stapleton (1903) Comparative Handbook that the Congolese languages originally used one or two basic forms of the verb, from which all others were derived. On p. 137 he notes that "Kongo uses two forms as verb bases, the simple form and the perfect form; all the other tenses are derived from these by means of prefixes and suffixes". The difference between these was aspectual. Similarly on p. 138 "Bangi uses the simple form of the verb as a Vivid Present in narration, and forms all the other tenses from this by the addition of prefixes and suffixes, with the exception of the Past Indefinite...". Again on p. 140 "Lolo uses the Simple verb as a Present tense, and builds up all other tenses on this as a base by adding prefixes and suffixes".

In other words the structual plan underlying the verb in Congolese languages was the same as that presented by Bord (2003: 58) for the Sumerian verb. Bord actually subclassifies all the prefixes that come before the verbal base as "pronominal elements". This terminology explicitly relates these prefixes to the noun. And suggests that the verb came from the noun.

Compare Stapleton (1903: 133) "in all the [Congolese] languages the prefixes attached to adjectives, pronouns, and verbs, to bring them into concord with the noun, are derived from the Noun Prefixes". One is inevitably reminded of Sumerian with its lack of a formal distinction between noun, adjective and verb, and its accumulation of prefixes and suffixes. Again pronominal prefixes are, Stapleton says, used both in the noun and in the verb, "to mark the relation of class, number, and person". According to Bentley "prefixes mark person, number, and time", in Bantu, whereas "suffixes are employed to mark the various conditions of the action whether progressive, complete, etc". These suffixes resemble old serial verbs.

I propose to consider the Sumerian verb with special reference to the statements made by Stapleton about Congolese. In this way we will be able to re-evaluate Schulien's objections to a "Bantu" interpretation of Sumerian.

The various types of prefixes and suffixes, were, we think, once full words. That is, they provided lexical definition of the verbal concept which tends to be vague and abstract. We can examine these to see if they have Niger-Congo etymologies.

Modal Prefixes (Preformatives)

The modal prefixes are placed at the beginning of the verbal string, before the conjugation prefixes. They establish the emotional tone of the sentence which follows. The meaning of some is doubtful.

Bord's (2003: 65) modal prefixes are as follows: *nu-, bara-, na-, ga-, ha-, ša-, u-,iri-, nuš-*. Bord gives the meanings as :

Modal Prefix	***hamt.u***	***marū***
1. *nu-*	negative	negative
2. *bara-*	negative-affirmative	vetitive
3. *na-*	affirmative	prohibitive
4. *ga-*	cohortative	cohortative plural
5. *ha-*	affirmative	precative
6. *ša-*	???	???
7. *u-*	prospective	prospective
8. *iri-*		???
9. *nuš*	hypothetical	hypothetical

Haye's (1997: 20) gives 6. *ša-* as "contrapuntive", meaning "he on his part". (Cf Greek *δε*).

As far as these meanings can be controlled (note the question marks), we are inclined to derive them from Niger-Congo words for "hand", "not", "and", "say" and the like.

1. *nu* "hand, not"

Ths prefix comes at the beginning of the verbal chain to indicate the negative of the verb. When it is followed by conjugation prefixes *ba-, bi-* the prefix *nu-* changes to *la-* and *li-*.

2. *bara* "hand", "not"

The prefix *bara-* is always written *ba-ra-* . It is mainly used in the first person (other persons occur). It is found with conjugation prefixes *ĩ, mu, ba, bi,* but never with the conjugation prefixes *im-ma, im-mi*. With the *hamt.u* form it often means "never".

3. *na* "not", "this, so"

This prefix is written *na-* except when it precedes the conjugation prefixes *ĩ-m-, ĩ-ba-,* or *ĩ-bi*. In that case it is written *nam-*. [*b* > *m*]. African *na* has negative and affirmative force.

4. *ga* "let me"

This prefix is used only to form the cohortative mode of the first person singular and plural (plural only in literary texts from the old Babylonian period). (Verbal reduplication here marks the plurality of the object). It may be from PWS *gán* "high, exalted", that is a kind of "royal 'we' ". Or from *ka* "hand, make".

5. *ḫa* "say", "and"

This prefix changes its vowel according to the conjugation prefix that follows: *ḫa-*, *ḫé-*, *ḫu*. Probably from *KH* > *χ*. PWS *ka* "hand, say, and". But compare PWS *gua* "hand, arm" [*u*].

6. *ša-*

This prefix is usually written *ša,* but also occurs in Old Sumerian under the forms *šè-, ši.* It occurs mostly in hymns. It may be from Bantu *tend* "praise", or from Lolo, Ngala, Poto, Ngombe *sima* "praise", by syncopation : loss of *nd* or *m,* with assibilation of **ti*. Sumerian *š* is normally from *t.* PWS has *tá* "to say, proverb", "damit", but also *tá* + nasal "to finish". Bantu *teta* "to speak".

7. *u* "when" (Hayes)

This prefix means "after, and then". Probably PWS *(k)u* "companion, with, and, following etc". Frequent in the introduction to letters. In Old Sumerian the prefix *u-* can change to *a* or *i* according to the vowel that follows. In general this prefix is used with *ḫamt.u* forms.

8. *iri-* "head" (of god)

This prefix, written *iri-, i-ri,* and *i-rí,* appears only in Old Babylonian literary texts with the *maru* forms of the verb "to praise". Exact meaning unknown. PWS *li* "head" or *lì* "eat" ? The HIGH sign in Cretan Linear A has phonetic *RE* ("mourn" ?). This may be related to *lia* "eat". Bantu languages have : Kongo *dila* "mourn", Lolo, Poto, Kele *lela* "mourn", Swahili *lilia* "mourn". (Reference to a wake). But Sumerian *iri* means "village". PWS *li (ri)* "to be".

9. *nuš* "hand, not"

The prefix is often written *nu-uš,* more rarely as *ni-iš,* or *ni-ìš.* A connection with *nu-* "not" has been suspected. In Niger-Congo "not" is often followed by *ki, si.*

An important fact which has become clear from the preceding is that Sumerian had a form of vowel harmony which flowed backward from the conjugational prefix to the modal prefix. Compare Niger-Congo vowel harmony which often adapts the vowel of the prefix to a following root. It is noteworthy that the Niger-Congo preprefixes usually have the same

vowel as the following prefix. Vowel harmony delimits the word. These "prefixes" were once full words. And they were preposed to nouns. Further evidence the Sumerian "verb" was really a noun in origin, with a preceding classifier.

The presence of vowel harmony is important for establishing the genetic affiliation of Sumerian. Afro-Asiatic languages show grammatical Ablaut (systematic vowel changes). Such Ablaut is incompatible with vowel harmony. So Sumerian is not Afro-Asiatic.

The meanings of the Sumerian modal prefixes, when known, resemble the meanings of the conjunctions in European languages. But the conjunctions are known to be from demonstratives etc. The Niger-Congo prefixes have all been related to demonstratives. But the demonstratives came from weakened nouns. Compare Maori, which uses little words to introduce the sentence or clause, and establish its modality.

Conjugational Prefixes

Bord (2003: 70, Grammaire) gives an account of the Conjugational Prefixes that suggests comparison with Greenberg's PWS-Bantu Prefixes. In fact their semantic features can be accounted for by PWS comparisons, eg *mu* = PWS *gu* "animate subject" etc. See also Johnston's Prefixes etc. The assumption is that verb prefixes were once noun prefixes.

These are : *i-, a-, ga-, m-, mu-, ba-, bí-, al-*. These eight are all close to Greenberg's early PWS = PB prefixes. The form *al-* is probably from **a-li* (= Bantu 5 *li-, di-,* "plural of pairs or multiples", compare Bantu 10 *lini-* "plural of 9 *ni-,* animals"). The vowels *a-, i-* resemble Bantu preprefixes (which match the vowel following). The Sumerian data needs examining to see if the Bantu sg : pl opposition or traces of it exist.

i-

This prefix is a nasal vowel normally written with the sign ***NI*** **.** It may change to *e*. It is difficult to attribute a single function to this prefix, which may be neutral. If it is the only conjugational prefix used, it stands immediately before the verb. When a modal prefix precedes it is impossible to identify this prefix (not written) unless conjugation prefixes *ba-, bi-* follow. For these compare Bantu noun prefixes 2 *ba-*, 4 *mi- (*bi)* indicating "people" (pl of 1) and "animate agents" (pl of 3).

I compare Mangbetu *–i* which is suffixed to the verb to locate it in space or time, or to put it in relation with another verb. Meanings: "in this place, at this moment, already, because,

then..." Probably from PWS *ni* "this, thus, so, that, there etc". Note that Mangbetu often prefixes the vowel *e* to verbs, which is probably from *i*, and may represent a type of article. Bantu has a noun prefix *ini-* class 9. And TogoR uses *i-* before infinitives, as does Yoruba (Westermann 1927 : 76). Which may be relevant if verbs come from nouns. Basque infinitives etc have an *e-, i-, j-,* (or zero) prefix : *ikusi* "see". Languages such as Latin may substitute the infinitive for a finite verb. Stapleton mentions that Congolese languages frequently have the *i* vowel in place of *a* in indefinites.

a-

Also a nasal vowel, this prefix is less common than *i-*. It may occur alone or associated with *ba-* or *bi-*, in which case it becomes *àm-ma* and *àm-mi.* "The meaning of the prefix is difficult to determine" (Bord). It is used often with the passive, and in the Nippur texts *a-* is found in impersonals, *i-* in transitive phrases. Many Mangbetu verbs have *a-* before the root, = article? In Bantu *a-* is common as the verbal augment (general or past time). When combined with –*ba-* or –*bi-* this prefix resembles a Bantu preprefix. Both 2 *ba-* and 4 *mi- (bi-)* are common Bantu noun prefixes referring to the plural. The form *mi* < **bi,* LoNkundo *be-, by-*.

Both these vocalic conjugation prefixes may be from forms of the Niger-Congo verb "to go", but PWS *ba, (be)* "to be" (in a place), Bantu *bá* "to dwell" is more likely, especially in view of the passive associations. "Go" and "be" are related in Niger-Congo, and used to form various types of verbs.

ga-

This prefix is always attached after *i-*. So doubts have arisen as to whether it is a separate prefix. Its main meaning seems to be "also" but it also means "consequently". The composite prefix *i-ga-* can be employed with the conjugation prefixes *m-, mu-, ba-, bi-* which follow immediately after it. PWS *ka* means "and, that" (primary meaning *ka* "hand", then "speak"). In the meaning "hand" we find Yoruba *i-ka,* Igara *i-ka,* and so on. The word *kà* "say" may have a lead vowel: Efik *i-ko* "word". The way in which these prefixes are accumulated has parallels in some forms of Bantu.

m-

This prefix is always preceded by conjugation prefix *i-*. It occurs directly before the verbal base or before an infix referring to an inanimate. The construction *i-m* can be preceded by a modal prefix. The element *m* has been described as a ventive. Compare PWS *bía, bá* "to come", PWS *bia* "place". Yoruba *i-be* "that place". In other words the preceding *i* is a noun

prefix. In Neo-Sumerian texts *i-im* is used only with the verb *ĝen* "to go" and usually comes immediately before the verbal base. PWS *má* expresses continuous action (with V-prefix).

mu-

This prefix is usually employed when the subject of the verb is animate or if the affix refers to an animate. The vowel of this prefix may harmonise with that of other particles which follow. Such assimilation of prefixes is a feature of Niger-Congo languages. I interpret this prefix as equivalent to Bantu 1 *mu-* "personal singular", from *gwu. PWS *gu* "he" is comparable to Meinhof's Bantu *ɣyu, ɣu* "third person singular, class 1".

ba-

This prefix is preferentially employed when the subject of the verb is inanimate or before affixes referring to an inanimate. It is very frequent however in constructions with one actor. I regard this prefix as identical to Bantu 2 *ba-* "they". But it is even closer to PWS *ba* "one" (person). In other words it has a clear Niger-Congo etymology. Ultimately it may be related to similar PWS words for "big" (man) and PWS *ban* "man, person". But Tschi has *–ma* from *ba* "child".

bi-

This prefix means, according to Poebel (1923/2005: 237) "darauf, darüber, daran". Connections with the locative infix *ni* suggest a locative meaning. We compare PWS *bia* "place", and the related word to "come". There is a Bantu noun prefix 8 *bi-* which may be comparable. In Guthrie's Bantu we have *BIDO,* "dirt".

al

This prefix normally appears without a preceding prefix. So we take it from PREPREFIX *a-* + PREFIX **l(i)-*. Possible meanings "be, live", also "agent" (preferred). The prefix comes right before the verbal base, and practically always has "un seul participant". (Bord).

Dimensional Prefixes (Case Prefixes or Infixes)

Dimensional Prefixes (DP) cross-reference the adverbial case relationships appearing in the sentence. Their use is "largely optional" (Hayes). They are infixed between the Conjugation Prefix and the verb (Bord 2003 : 75, Grammaire).

Case	**Case marker**	**Dimensional prefix**
ablative/instrumental	*ta*	*ta; ra (?)*
comitative	*da*	*da*
dative	*ra*	*na*
locative	*a*	*ni; a (late)*
locative-terminative	*e*	*ni (?)*
terminative (directive)	*še*$_3$	*ši*

Notice that the corresponding dimensional prefixes are sometimes the same as their case markers. Where they are not, they find a semantic explanation in Westermann's PWS. Thus the dative DP is *na*, PWS *ná* "give", also "sign of dative". The locative dimensional prefix *ni* is PWS *ni* "in, inside", which is also used as locative-terminative. The terminative DP is *ši*, which has a different vowel from its corresponding case marker: but PWS has both *tí* "centre", *tí* "take", (also *tía*). The alternative ablative/instrumental DP *ra* can be explained as Proto-Bantu *-l^{n}ã (Stewart 2002), Nilo-Saharan *ra, la* etc "movement".

This use of prefixes for cross-referencing bears a resemblance to Bantu alliterative concord (repeated prefix mapping onto successive parts, eg noun and verb, in the sentence).

Hayes (1997) page 22 mentions that most of the other DPs (other than the dative) can be prefixed by a co-referential pronoun, loosely cross-referencing the adverbial participants in the sentence. His example is *b.da*, with the third person inanimate pronoun *b* prefixed to the DP for the comitative *da*. This notion of prefixing a prefix to a prefix (ie. preprefixing) must be regarded as akin to the Bantu use of preprefixes on the noun.

[The possibility should be considered that the dimensional "prefixes" are really postposed to the conjugational "prefixes", which were once independent nouns. After all they largely match the case markers of the noun phrase. An original isolating language preceded Sumerian.]

Pronominal Prefixes

The pronominal elements of the finite verbal construction occur as prefixes and suffixes. They refer to the person involved in the verbal action. The pronominal prefix is always unique and comes directly before the verbal base. The pronominal prefixes are ***-e-, -n-, -b-.***

-e-

This prefix is used to mark the second person singular. It is used (1) as subject of *hamt.u* forms of transitive verbs; (2) when employed with the pronominal suffix *–enzen-*, the prefix *–e-* is subject in transitive *hamt.u* forms; (3) it also precedes a dimensional prefix which concerns a person. It may be Johnston's *gwe, (we)* "thou" (1919 : 32). This is the same as PWS *gu(a)* "he", Likpe *u, w-e* "he". But the usual Sumerian pronoun "thou" is *za-e* (with *za-* loss and *-e* > *we*).

-n-

This prefix is used to mark the third person singular of animates; (1) a subject of *hamt.u* forms in transitive verbs; (2) when it is employed with the pronominal suffix *–eš* the prefix *–n-* is subject in transitive forms; (3) before a dimensional prefix referring to a person; (4) less often the prefix *–n-* can mark an animate object in *marū* forms. The form is from Sumerian *ne* "this", *a-ni* "his" etc = PWS *ni* "this", PWS *ni* "man".

In Palaeo-Babylonian texts examples occur which do not fit the above rules.

-b-

This prefix is used to mark the third person singular of inanimates; (1) as subject of *hamt.u* forms in transitive verbs; (2) as subject of *hamt.u* plural forms in transitive verbs which lack a plural pronominal suffix; (3) in *marū* transitive forms where it refers back to the direct object of inanimates; (4) before the dimensional prefix of an inanimate. The form is from Sumerian *bi* "this". Niger-Congo has *bi* "person", "people", which weakens to a prefix (*mi-*) or pronoun. But PWS *bi* also means "seed" and "small".

Note that Basque (from Niger-Congo-Nilo-Saharan) "Dialogue Conjugations" incorporate special pronouns for the addressee – along with the subject and object pronouns. In Niger-Congo Migili (S. Plateau) and Kente (Junukoid) incorporate extra pronouns in the verb. In Chadic we have the ICP (Intransitive Copy Pronoun), intransitive verbs with an object pronoun. See Bendor-Samuel ed (1989).

[The idea that these prefixes (really infixes) are verbal "subjects" sits uneasily with an ergative interpretation of Sumerian. Why is there no first person ? The possibility should also be considered that these pronominal "prefixes" are really suffixed to the somewhat obscure conjugational "prefixes". All these elements were once full words. Layers of language history are involved.]

Future Suffix *–ed*

When this suffix occurs it stands immediately before the verbal base. With regular verbs it is attached to the base form ; with other verbs it is attached to the *marū* form of the verb. The suffix is mainly used with nominal forms of the verb, but sometimes appears in conjugated forms. It marks futurity or a future obligation:
eg. *nu-kur-ru-dam (nu-kur-ed-àm)* "who should not be changed"

This element is related to the *te* of Nyangbo which Westermann (1927: 112) mentions as forming the Perfect. On p. 287 Westermann (1927) notes that *tè* means "früher, damals, dann", also "gerade". The relevant meaning here is "presently, soon, immediately". It is an old PWS formant which could be used either of past or future. In origin it is an adverb.

Pronominal Suffixes

These suffixes, occurring immediately after the verbal base, refer equally to the subject or the object. Only the Future suffix *–ed* may intervene. They differ according to whether the verb has one "actant" or "participant" (intransitive), or two "actants" (transitives) with a *marū* verb. There is also a third series of usages for the plural of *hamt.u* verbs with two "actants". See Tesnière (1969) for the term "actant".

Bord's Table (modified)

	1 actant	**2 actants *marū***	**2 actants *hamt.u***
1st sg	-en	-en	
2nd sg	-en	-en	
3rd sg		-e	
1st pl	-enden	-enden	-enden
2nd pl	-enzen	-enzen	-e-, -enzen
3rd pl	-eš	-ene	-n-, eš

It is noteworthy that the reflexive pronouns of Mangbetu (Vekens 1928 : 39), which are suffixed to the verb or personal pronoun, appear to be built on similar principles, but with different results.

1st sg	zindra	1st pl	zie
2nd sg	zindru	2nd pl	ziki
3rd sg	zindre	3rd pl	zinie

The Mangbetu *z-* has been lost (or may = *š*). Mangbetu has an intrusive *r* (as often) after *d.* And *a* > *e, i* > *e.* But the main pronominal elements *n* and *d* stay the same.

Cross-Referencing

The Personal Affixes (PA) occupy the positions immediately before the verbal root and after it (Hayes 1997: 22f).

With *hamt.u* verbs the preceding PA cross-references the agent, the following PA cross-references the patient. This procedure resembles the Bantu use of repeated prefixes = pronouns throughout the sentence.

Perfect (Hamt.u) Forms

lugal-le	*hi-li*	*mu-dim₂*
(lugal.e	hili.#	mu.n.dim₂.#)

"The king fashioned the wig"

lugal	*i₃-ĝin*
(lugal.#	i₃.ĝin.#)

"The king left"

The "verb" *dim₂* is related to Johnston's (1922 : 316) *–jim-, -jima-* (cf *–tem-*) "hand", whence PWS *lima, (-deme)* "tongue" (tongue as a "hand"). Compare PWS *li, (d.ì)* "dig" etc. I reject Bourquin's "Begriff des Einsinkens" as an explanation here (1923/1969 : 196).

Here *e* is ergative, *hili* "wig", *dim₂* "fashioned", *mu* "conjugation prefix", *n* "personal affix, cross-referencing the agent", # "zero, personal affix, cross-referencing the patient". (Hayes' interpretation, open to argument). Word order is clearly grammatically important.

In both sentences the patient has the absolutive case marker # and is cross referenced by the PA # after the verbal root. In the first example however "king" is ergative.

In the *marū* forms the PA immediately before the verbal root cross-references the patient; the PA after the verbal root cross-references the Agent. This is directly contrary to what happens in the *hamt.u*. (We follow Hayes here). The pronominal word order in *marū* mimics that of the English passive.

Imperfect (Marū) Forms

lugal-le	*hili*	*ib_2-dim-me*
(lugal.e	hili.#	i_2.b.dim$_2$.e.#)

"The king will fashion the wig"

I take the conjugational prefix i_3 as a tense marker indicating the future. It is probably from Niger-Congo *yi* "go" (or *(b)i*), ie. equivalent to English "he is going to fashion". The following *b* is an embedded cross-referential object pronoun = *hili*. "wig".

See Hayes (2000 : 158 – 159) for discussion of the matter. He sets up the schema :

(1) historic patient of compound verb
(2) conjugation prefix
(3) personal affix cross-referencing patient
(4) verbal element of compound verb
(5) *marū* suffix
(6) personal affix cross-referencing agent
(7) nominaliser, forming relative clause.

His example is :

(1)	(2)	(3)	(4)	(5)	(6)	(7)
šu.#	***bi_2***	***b***	***ur_4***	***(e)***	***#***	***a***

We may see in the above examples an historical change in pronominal word order. The *hamt.u* form of the verb (unmarked) shows VO pronominal word order, original in Niger-Congo, according to Heine. The *marū* form (marked) shows OV pronominal word order. The full noun object however, is always in OV position. In Sumerian VO is vestigial, and tends to be lost. Givón however, using clitic evidence, has argued the opposite position for Proto-Niger-Congo. If verbs come from nouns however, the old "object" may be treated as an objective genitive.

In the preverbal root position the forms of the first and second persons singular pronouns are thought to be *e* or #. In the postverbal root position the first and second singular person forms are both represented by *en* . This *en* must be earlier than *e* or #.

In the preverbal root position the forms of the third person singular pronoun are *n* (animate), *b* (inanimate). But in the postverbal root position the third person singular pronoun is always #. One assumes that very weak accentuation caused total loss. In Sumerian the root syllable carried maximal stress. Preposed and postposed elements alike were feeble and liable to be lost. Vowel harmony was an intermediate stage. Prefixed and suffixed vowels lost their distinctive force. The postposed elements were probably weakest of all (amissable Auslaut consonants etc). Lexical elements proved stronger than grammatical elements of uncertain meaning. Language comes out of the lexicon and ultimately reverts to it. The lexicon is king.

Differences in *ḫamt.u* and *marū* forms.

The *ḫamt.u* may be shorter than the *marū* form : (Bord 2003 : 62)

H. *è*	M. *è-d*	"to set out"
H. *ri*	M. *ri-g*	"to pour"
H. *te/ti*	M. *te-g/ti-g*	"to approach"

These differences may be due to amissable consonants. In other cases *ḫamt.u* and *marū* use a different base (suppletion) :

H. de_6	M. *tùm/túm*	"to bring"
H. dug_4	M. *e*	"to speak"
H. *ĝin*	M. *du*	"to go" (sg)
H. re_7	M. su_8*.b*	"to go" (pl)

This fact reminds us that : "In the beginning there was the lexicon." Grammar was a later development.

In certain plurals *ḫamt.u* and *marū* are identical. Thus Bord (2003 : 62) says that the verb "to speak" (dug_4*/e*) , with an ergative plural subject, uses the *marū* form *e* for both types.

Note that in this example the *marū* form is shorter than the *ḫamt.u*, which is anomalous. It probably goes back to a time before the *ḫamt.u/marū* distinction existed. Grammar is full of such irregularities. They often are found in verbs for "speak", eg English *quoth,* Latin *inquit, insece,* Greek *ennepe, ē* (= *ephē*) etc.

Relative Clauses

The "Relative Clause" appears immediately after the noun that it qualifies and the subordination suffix *–a* is added to the verb phrase. (Bord 2003: 82). To say "when" Sumerian actually says "the day that".

eg. *é me-un-dù* "he built a house"
lú é mu-un-dù-a "the man who built a house"

This Sumerian Relative is the reduced form of the Niger-Congo article/demonstrative/agential *-(l)a.* Westermann (1927: 247) notes that this element "bildet auch nomen agentis" in Ewe, in Adele and in Bamama VI and Malinke VI. In other words Sumerian converts the "Relative Clause" into a noun. This is clear evidence that the Sumerian verb developed out of the noun.

The same procedure is followed in Sumerian circumstantial clauses.

Circumstantial Clauses

These are expressed by NOUN...VERB + *-a* + CASE SUFFIX
Examples are given by Bord on pg. 83.

Noun Phrase	**Verb Phrase**	**Suffix**	**Case Suffix**	
u_4...	...verb	*-a*	*-ta*	"since"
en-na	...verb	*-a*	*-eše, -a*	"until"

eg. *u_4 lugal-e uru mu-un-dab$_5$-ba-ta (mu-un-dab$_5$-a-ta)* "since the day that the King took the town".

Suffixes *–eše* and *–ĝišen*

Two other particles appear as suffixes, *–eše* and *–ĝišen.* The first of these is used as a citation mark:

eg. *me-re-za (=giri$_3$-zu) en-nu-un ak-ab-e-še* "pay attention to your feet", he said.
The second marks conditionals: eg. *á mu-e-da-áĝ-ĝiš-še-en á áĝ-ĝá ma-ab-sum-mu-un-e-še* "if I try to teach you something, you say "have you given me some teaching?"

Imperative

The Imperative is formed by changing the order of elements in the verb phrase to the *hamt.u* form. In Congolese, too, "all the languages agree in using the simplist form of the verb in the second person of the imperative mood". (Stapleton 1903: 178).

The prefixes of the Sumerian verb phrase are placed after the verbal base instead of before it. But the order of the prefixes remain unchanged. In other words the imperative verb is fronted. The fact that these "prefixes" can follow the verb shows that they were once full words with free word order. Compare Johnston (1922 : 495) on prefixed vs suffixed (N-W Bantu) pronouns in Niger-Congo For inversion in imperatives compare English "The man goes" with "Go man, go". A Sumerian example from Bord :

eg. *sum-ma-ab (sum-mu-a-b)* "give it to me"
In the second person of the plural the pronominal suffix *–enzen* is added to the end of the string of prefixes.

eg. *sum-ma-ab-zé-en (sum-mu-a-b-enzen)* "you (plural) give it to me".

In Niger-Congo the Poto, Ngombe and Swahili languages use a suffix *–ni* to mark the plural of the imperative. See also Johnston (1922 : 495, chapter XV). Johnston's North-West Nyasa Languages nos. 52 & 53 (Ci-Henga, Ci-Tumbuka, C-Tonga) employ *-eñge* as a suffix in both singular and plural imperative. The Sagara dialects (East Bantu) have *–añge* as second person plural imperative (Nyamwezi singular *–ga,* plural *–ge*). These forms are the basis for Sumerian *–enzen.*

An unexpected imperative uses the verbal base alone and a suffix, above all in the singular.
eg. *gi$_4$-a* "behind".
This suffix *–a* is probably from the *–ga* mentioned above.

There are no negative imperatives in Sumerian.

Similarly in the Congolese languages "it is not easy to tabulate the negative forms of the imperative mood" (Stapleton 1903: 179). We assume that since they cannot be reconstructed they perhaps did not exist. Note that Bangi and Lolo negative the imperative by the particle *te* standing before the verb, and *ke* after it. (Stapleton 1903: 180). In view of what has been said about the future prefix in Sumerian, one suspects that these forms are not really imperatives, particularly as they have *ke* "make" following.

Participles & Infinitives

These verbal constructions lack a string of prefixes or a pronominal element, and consist solely of the verbal base with certain suffixes. This type of construction exists in the form *ḫamt.u,* the form *ḫamt.u* with reduplication, and the form *marū* with the suffix *–ed*. Bord calls these forms "inachevées". They correspond to non-finite verbs in Indo-European languages. One classifies them on this basis as active participles, passive participles and infinitives. On similar constructions in Mande see Delafosse (1929: 203).

Participles with *ḫamt.u* verbal base without suffix

eg. *dub-sar* "writing tablet" = scribe
giš-gaz "wood striking" = weapon
níg-ba "thing given" = gift
alam-dím-dím "making statues"

Participles and infinitives with *ḫamt.u* verbal base and the suffix *–a*

These nominal forms involve adding the suffix *–a* to the end of the verb phrase to produce an infinitive or past participle.
eg. *dù-a* "to make" or "made"

An agent may or may not be included, thus
é-ninnu an-né ki-gar-ra (ki-gar-a) "E-ninnu put in place by An".

Participles with a *marū* verbal base and suffix *-ed*

This participle is always active and the presence of *–ed* shows that an action or intention in the future is intended.

gá-la nu-dag-ge (nu-dag-ed) "never ceasing"

Enclitic Copula

The enclitic copula *me* (*mì, mí*) comes at the end of a verbal phrase "inachevée". With the first and second persons the enclitic copula take the place of a personal pronoun. It is more probable that this so called enclitic copula comes from a Niger-Congo pronoun.

eg. *nin ama Lagas^{ki} ki-ĝar-ra-me (ĝar-a-me-en)* "you the lady, the mother who founded Lagaš"

Westermann's PWS

It is possible to show that the suffixes and "enclitic copula" mentioned in the above sections existed in PWS as "Wortbildungsuffixe". Westermann (1927 : 304) lists 1. *–a* "Verbalnomina", 3. *–li* "Infinitive, Abstracta" (S. *–di*), 4. *–mo, -mi, -ma, -m* "Infinitive, Abstracta", 5. *–ki* (= *ku* ?), *-gi* etc "Inversive" (compare Niger-Congo *ku* "infinitive formant"), 6. *–ti* "Inversive" (S. *–di* ?). He adds *lì* "sein", *tà* "Sache", *ta* "sitzen, sich aufhalten", *bá* "kommen" etc.

The word "sleep" in Sumerian gives us the following examples.
ù "sleep, to sleep"
ù-a "to sleep"
ù-di "sleep"
ù-ku "to sleep"
ù-sá "sleep" (*-sá* < *ta*)

Asyntactic Constructions & Subordinate Constructions

A distinction may be made between verbal constructions which are asyntactic and those which are subordinate based upon the usage of the suffix *–a*. M.-L. Thomsen pointed out this distinction.

lú dub-sar "the man writing the tablet"
lú dub sar-ra (sar-a) "the man who has written this tablet".

Verb "to be"

The base of the word "to be" is *me*. This follows the intransitive (one participant) pattern. Thus there is a prefix of mood, sometimes a prefix of case and a following pronominal suffix. For example the first person forms, with prefix *ì-*, are:

singular first person	*ì-me-en*	"I am"
plural first person	*ì-me-enden*	"We are"

But the existence of singular and plural forms suggests that this verb is really a noun, as does the preceding prefix. Bord (2003: 87) mentions that the meaning of this verb sometimes exceeds the bounds of "to be", but never means "to exist". Bord's Dictionnaire (2003) gives me_6 as meaning "to make, to behave".

I suspect that it really comes from PWS *ba* “to be” (in a place), and PWS *bò* “to be, to behave, to have”, also *bà* “to count”, which are both derived from PWS *búá* “hand, arm”. The *b* is prenasalised [*mb* > *m*]. And [*a* > *e*]. The verbal meaning develops from “action of hand”. We can extend this argument to cover other Sumerian intransitive verbs which also have plural forms and so develop out of nouns. It is noteworthy that Chadic verbs have plural forms as do some Niger-Congo languages (Westermann (1911: 67 Ga, 70 Efik).

Compare the remarks of Poebel (1922/2005: 168) on *lá* “the root for count”. He gives a range of prefixes and suffixes that modify the meaning of this root. The first of these, the suffix *–a,* converts the root into a verbal noun “counting”, and is obviously the postposed article = PWS *la, a*. The Sumerian ergative suffix *–e* (from PWS *ke* “makes”) confirms this. The *la* of Sumerian is from PWS *lá* “make”, also PWS *la* “bushknife”, itself taken from an old word for “hand” (*la, da,* “count with hand”*).*

PHONOLOGY

"**It is not easy to reconstruct the phonological system of Sumerian or the precise pronounciation of any of its sounds. There are two main reasons for this problem. First, since Sumerian is a language isolate, there is no comparative evidence to provide help. Second, most of the evidence for Sumerian phonology has been filtered through the Akkadian phonological system; Sumerian phonology is seen through Akkadian eyes".**

HAYES (2000)

In this section we systematically compare the phonological systems of Niger-Congo ex Nilo-Saharan and that of Sumerian. It is important to recognise that early phonological systems were simple with few elements. These gradually differentiated, giving rise to allophones, which developed into vowel and consonant grades, independent, distinct sounds, expressing synonyms, then different words. Vowel Grades involve vowel lengthening, diphthongisation, vowel mutation, reduction to shwa, voiceless vowels and vowel loss (due to accentual weakness). Sporadic shadow vowels may survive (as in Gur) when vowel loss is taking place. Consonant grades involve labialisation, palatalisation, spirantisation, nasalisation, lengthening, consonant loss, and sporadic consonant loss (amissability) or "shadow consonants. Clicks and glottal stops may represent consonants at word boundaries.

Semantic loss goes hand in hand with phonetic loss. As lexical elements are relegated to grammatical function their meaning becomes more vague. As prefixes, for example, are reduced to single vowels, their meaning may be lost altogether. The result is that the surviving fossil vowel is itself lost. Vowel harmony produces like or identical vowels and so causes redundancy and consequent vowel loss.

But these processes were gradual. There was always much overlap and indeterminacy of meaning. The very nature of language and the way it develops makes it a hazardous field for statistical enquiry. Often we are not sure if we are dealing with nouns or verbs, or if word A is separate and different from word B. In early languages even phonological distinctions may be unclear. Stapleton (1903) was aware of this. Shadow vowels and amissable consonants are another problem. Sometimes they are there, sometimes not.

Niger-Congo Vowels

Williamson in Bendor-Samuel (1989: 23) discusses recent research regarding the Niger-Congo vowels. It appears probable, following the work of Stewart (1967), Ladefoged (1964) and Lindau (1975) that early Niger-Congo languages distinguished between five [+ Expanded] vowels ə, *e, i, o, u* and five [- Expanded] *a, ɛ, ɪ,* etc. This number is not certain however. I regard the Expanded vowels as due to *r*-loss. See especially Kru for "intrusive" *r* before or after a vowel. It also occurs elsewhere, and may arise from rhotic infix reduction. A further difference between oral and nasalised vowels has also been suggested, but I regard the nasalised vowels as due to the reduction of nasal consonants (as in French). Sumerian has no way of showing Expanded vowels. They are not phonemic, being in contrastive distribution with the Non-Expanded variety.

Westermann (1927), in reconstructing PWS, sets up **three** original vowels: *a, i, u,* with later secondary *e* & *o,* which developed from *i* & *u,* but also from allophones of *a*. The sequences *ia* & *ua* also frequently give rise to *e* & *o* respectively.

i *u*

(e) *(o)*

a

This system which we take as an approximation of Proto-Niger-Congo-Nilo-Saharan matches the three vowels (short and long) posited by many for Proto-Afro-Asiatic (Cohen in Martinet ed. 1968).

Bender's (1989) Proto-Central Sudanic has *a, e, i, o, u,* together with (*e/i*) and (*u/o),* also (*a-o*). This is fairly close to Westermann's later system.

In Niger-Congo **shadow vowels**, which come and go, appear in various languages, especially of the Gur group. They cause the same word to appear with different numbers of syllables. Compare Modern French. Then one has to contend with **zero vowels**. The origin (or even existence) of these may be uncertain.

Sumerian Vowels

Hayes (2000) gives a brief account of the vowel system of Sumerian on pgs. 23 – 24.
Hayes states that Sumerian "had at least the following vowels".

i u

e

a

The phonetic value of Sumerian /e / is unsure. Compare ^{gi} *en-bar* "swamp" alongside *abbar, ambar,* and *enim* "speech" alongside *e-ne-èm, inim, enmen* "thirst" alongside *emma, emmen, imma, immen, immin.* Probably Sumerian also had an /o / quality vowel (rare). He adds that other vowels have also been posited, eg. umlauted /ä /, /ë /, /ö /, /ü /. Evidence for these is indirect, eg. alternate spellings of the same word with *u,* or *i,* for example (*iti, itu* "month") may indicate /ü /. Our tabulation of vowel frequencies shows that *e* is rare, and that *o*, if it exists, is also rare. On the other hand *a, i,*and *u* are all vowels of high frequency. So we assume an original three-vowel system.

Bord (2003 : 23) mentions Greek transcriptions such as *δωμ* for *dumu* "son". If it is permissible to use Latin evidence we might mention Latin *non* < *noenum* "not" (compare Sumerian *nu* "not"), where *oe* may be a fronted *u,* not to neglect Latin *domus* "house", compare Sumerian *dúr* "domicile", Greek *δόμος,* Sumerian *dù* "work", Latin *dolō* "fashion from wood", also *doleō* "receive blows", Greek *δουλος* [*ου = ō*] "slave". This last should be from PWS *lá, (da)* "to make". Sumerian *nu* "not" if from PWS *nú* "hand", with Guang dialect form *he-no* (Westermann 1927 : 270, secondary vowels). Possible further evidence from Sumerian *duru* "irrigated", Common Bantu *dók "rain", but Meeussen's Bantu *du,mb* "rain", *dók* "drip". These examples create a presumption that Sumerian *u* here comes from *o* (not *u*). In other words we have found some evidence in favour of Sumerian *o*.

Westermann's PWS shows a similar distribution: the original vowels set up by Westermann are *a, i, u* (all of high frequency). The vowel *e* is secondary and weakly established in PWS. The vowel *o* is extremely rare. The developments *A=e and *I=e are secondary and subordinate in Niger-Congo languages. Furthermore alternate forms of the same root, either with vowel *i* or with vowel *u* are relatively common.

The overall pattern is remarkably similar to that of Sumerian. One might even say that the proposed umlauted vowels set up by some for Sumerian could largely be accounted for by sound changes to the three original PWS vowels.

Nasalised & Long Vowels

Nasalised Vowels: Hayes: "It has several times been suggested that Sumerian possessed nasalised vowels", but there is no consensus about this. Many Niger-Congo languages have nasalised vowels, which have given rise to much dispute. Some would reconstruct them for Proto-Niger-Congo. My position is that the Niger-Congo nasalised vowels have developed from vowel + nasal consonant. Further, the nasal consonants of Niger-Congo appear to have developed from reduced nasal syllables, which were once full words. Bord cites *i-ba* > *im-ma, i-bi* > *im-mi* as possible evidence on page 24. See his comments on p. 71 & 72.

Long Vowels: Hayes: "It is not known if both short and long vowels existed". This is because the Sumerian writing system "cannot unequivocally show vocalic length". In Niger-Congo it is not customary to reconstruct long vowels in the protophonology. However, as Westermann's examples show, they often occur in the actual languages where they seem to come from the contraction of short like vowels, as in Maori. Guthrie in Seboek ed (1971) set up long vowels for Bantu alongside short. Adamawa largely limits long vowels to the position after root-initial consonants (Boyd in Bendor-Samuel 1989 : 202). But Adamawa has been shown to be close to Nilo-Saharan. Westermann (1930 : 2) records long vowels in Ewe. Meeussen (1967 : 82) says of Bantu "Even correspondences pointing to long vowel can be interpreted as containing sequences of two identical vowels."

Many Sumerian **"disyllabic"** spellings suggest an attempt to represent long vowels. Contraction was common in Sumerian, as was consonant loss, which causes successive vowel sequences. Bord's Dictionnaire lists *ba-al* "creuser", *ba-ab-si* "être plein", *du* $_6$ *–ul* "empiler", *ga-an-zír* "darkness" (*ganzer*), *su-ub* (sub). In some cases we can give cognates : Bantu *deedo* "today", *deede* "sky" = Sumerian *a-da-al* "now", *a-da-lam* "now", *dalla* "ray of light"; Bantu *bá-ag* "slaughter", Sumerian *ba-da-ra* "dagger"; Bantu *té-ek* "put on fire", Sumerian *šé-er* "shine brightly" (with **T .> š.*), Bantu *tiid* "flee", Sumerian *šilig*$_5$ "abandon work", Bantu *dáad* "spend the night", Sumerian *dag, daga* "place of repose" (chamber). The Bantu double vowel may stand for a long. But often the Sumerian does not have a double vowel : Bantu *niin* "climb", Sumerian *ninda* $_2$ "breeding bull" (one who mounts), Bantu *déet* "bring", Sumerian *de* $_6$ "bring", Bantu *puud* "thresh", Sumerian *bu* $_6$ "to cut", Bantu *béep* "tell lies",

Sumerian *bi* “speak” (with *I = *e*). This evidence is important, even if not entirely conclusive. See Bord (2003 : 24).

Vowel Loss & Vowel Harmony

Vowel loss, presumably due to a strong stress, is common in Sumerian, eg *urud*, *urudu* (copper objects). Compare Sumerian *ĝá-gi₄ –a (ĝar)* “reed basket”, where *–a = -ra.* Such vowel loss is also common in Westermann’s “Sudan” (1927 : 152) “Vokalausfall” etc. These weak final vowels, when present, may have been voiceless, like the final vowels heard in Calabrese.

Vowel Harmony, which we found even in the Determinants, is more pervasive. On page 24 Bord describes vowel harmony as more than a strong tendency in Sumerian. Eg *su-he-uš >su-hus* “root, foundation”. Poebel (p. 14) mentions “Vokalangleichung” = “in beiden Silben den gleichen Vokal”. On page 31 he gives examples from disyllables : *zalag* “light”, *sikil* “be pure”, *dubul* “shatter”, *dirig, digir, dingir, dimir* “god”, ES *dimmer* “god” (dialect), *arad, arud* “slave”, ES *erid* “slave” (dialect). The last example is interesting in showing BACK BACK only in standard Sumerian, but FRONT FRONT in the same word of Emesal.

In Niger-Congo the tendency to show like vowels in successive stem syllables is weaker than in Sumerian. From a sample of 50 reconstructed stems in Mukarovsky (1977) and the same number in Meeussen (1967), Bantu, we found :

Mukarovsky		**Meeussen**		**Meeussen**
BB	19	BB	27	BB = 13
FB	18	FB	8	
BF	9	BF	9	
FF	4	FF	6	FF = 11

where B = back, F = front. The tendency appears strongest with back vowels. This is a point of difference between Niger-Congo and Sumerian. On p. 86 – 88 Meeussen lists CVVC double vowel stems, some of which are reduplicated, he says : BB = 13, FF = 11. They show a total incidence of like vowels, front and back. So reduplication is definitely a factor.

Bord regards **vowel assimilation** as particularly strong in the prefixes. Thus *i-*, *bi* keep the *i* if *i* or *u* follow in the root, but change to *e-*, *bé* if the root has *a* or *e.* This is exactly what

happens in many Western Niger-Congo languages. Assimilation of vowels also applies often in Sumerian verbal suffixes (Bord). This phenomenon, which has been observed in other tone languages, serves to delimit and identify the word, which has ceased to be a free monosyllable, and is now polysyllabic. See Westermann (1927 : 68 "Vokalharmonie" (Yoruba), 101 (TogoRemnant) assimilation of the noun prefix vowel to the vowel of the word stem, 129 (Gur) "Stamm- und Suffixvocal identisch geworden sind"). I consider that the special tendency towards this feature in the verb indicates that Sumerian probably stressed the noun (front of sentence) more, and used pitch more on the verb (back of sentence).

Vowel Harmony (full or partial assimilation of adjacent vowels) tends to erode vocalic distinctions. According to Westermann it was ultimately based on Reduplication (doubling : *ba* > *baba* etc)**.** But it had confusing consequences. It can be responsible for Ablaut, a consequence of vowel loss remaining after a suffix has disappeared, as in the English plural *feet* < *fotiz,* compare singular *foot*. When two like vowels follow each other, one may be lost as unaccented and/or redundant. Loss of a final vowel is particularly challenging. Vowel mutation, vowel loss, vowel harmony, are significant innovations indicating relationships.

Contraction & Diphthongs

Contraction of adjacent vowels occurs as follows :
i + *a* > *a* (*a-ni* + *a* > *ana*)
u + *a* > *a* (*zu* + *a* > *za*)
u + *e* > *e* (*mu* + *e* > *me*)
u + *e* > *u* (*dumu-e* > *dumu-ù*)

Again we have a feature common in Niger-Congo : See Westermann (1930 : 7f) for examples, In NOTE 1. he refers to the dominance of *a* over *e.* Compare Sumerian dominance of *a* over *i* (*i* > *e*). Yoruba also has good examples of contraction of vowels. See Rowlands (1969 : 7) for an informal account. Stress affects this too.

Diphthongs do not occur in Sumerian (Bord p. 24). Westermann's PWS does not admit the existence of diphthongs. Sequences of *ia & ua* go to *e* and *o* respectively, as generally in Niger-Congo languages. Vowel sequences are due to intervocalic loss of consonants. This is a point of difference with Sumerian (see previous section). There are no diphthongs in Yoruba. But Sumerian may have had long vowels from (like) V + V sequences.

African Consonants

Afro-Asiatic has a much larger inventory of consonants than Sumerian. In particular Afro-Asiatic languages have a series of "Emphatic" consonants, variously realised as glottal or pharyngeal (Arabic, Berber). Martinet (1955) demonstrated that pharyngeal sounds could develop from glottal, but not vice-versa. Sifflants are also posited for Afro-Asiatic, not to mention the controversial labiovelars (best represented in Hausa). Then there are the front and back palatals. This elaborate system of consonants does not favour an Afro-Asiatic identification for Sumerian. The complexity is secondary.

Niger-Congo Consonants

Williamson in Bendor-Samuel (1989) gives a brief account of what is known about the Niger-Congo consonants on pgs. 21 – 23. She emphasises the importance of a fortis: lenis contrast as proposed by Stewart (1973, 1976a) and Elugbe (1973), following Lagefoged. The **lenis consonants** are best interpreted as allophones of fortis consonants in the vicinity of a nasal. She also includes **labiovelars** or labialised velars as reconstructed by Stewart (1983) for Proto-Volta-Congo, and Mukarovsky (1976/77) for Proto-Western Nigritic. Dwyer has a similar reconstruction for Proto-Mande. Stewart & Mukarovsky are tabulated as follows:

STEWART (1983)

	labial	alveolar	palatal	velar	labiovelar
fortis	*p, b*	*t, d*	*c, j*	*k,g*	*kp, gb*
Lenis	*'p, 'b*	*'t, 'd*	*'j*	*'k*	*'kp, 'gb*
[nasal]	*[m]*	*[n]*	*[ny]*		*[ŋm]*
[approximant]		*l*			
[nasalised app]		*[Ĩ]*			

The two reconstructions are remarkably similar in spite of certain differences. Both have labiovelars or labialised velars. Both have lenis and fortis plosives. Note that Mukarovsky, who does not postulate nasalised vowels, sets up full nasal phonemes. Stewart does not recognise semivowels, whereas Mukarovsky has *w* & *y*. Mukarovsky postulates no contrast between **l* & **'d*. Problems regarding the nasals are acute in Niger-Congo. Some would not recognise any protonasals for this group. Thus Bole (1982 : 327) on Ebrie says "Il n'y a pas de consonnes nasales phonologiques en ébrié". They exist only as nasalised allophones of *b, l, j, w*. I suspect it depends on how far back you go into the history of Niger-Congo.

MUKAROVSKY (1976/77)

	labial	alveolar	palatal	velar	labiovelar
fortis	*p, b*	*t, d*	*c, j*	*k, g*	*k^w, g^w*
lenis	*‘p, ‘b*	*‘t, l*		*‘k, ‘g*	*‘k^w, ‘g^w*
nasal	*m*	*n*		*ŋ*	*ŋm*
approximant	*w*		*y*		

More recently Stewart (2002) has introduced reconstructed **implosives** into his Proto-Potou-Akanic-Bantu. I regard this as questionable, especially at such a great time depth. In this more recent study (2003) Stewart greatly complicates the interpretation of both consonants and vowels in early Niger-Congo. He is right however in drawing attention to the importance of mutation and in resisting dogma about the comparative method. Mutation hold the answer to Niger-Congo complexities, not exotic protoreconstructions.

STEWART (2002), Tables 2, 3, 4.

Bender (1989 : 13) reconstructs implosives for Proto-Central Sudanic. He also recognises an affricate (*ts*), fricatives *f, s, v, z,* three nasals *m, n, ny,* and prenasalised plosives *mb, nd, ŋg* and (*ŋgb).* His liquids are *r, r/l, l, l/r,* his semivowels *w* and *y.* As Niger-Congo is thought to have come from Central Sudanic his tentative analysis is relevant to our enquiry. His work raises most of the current problems of Niger-Congo phonology.

BENDER (1989)

	labial	dental-alveolar	palatal	velar	labiovelar
stops					
	p, b, b	*t, d,* d	*c, j*	*k, g*	*kp, (bg),*
			d. (retroflex)		*(?)* (postvelar)
affricates					
		(ts)			
	f, v	*s, z*			
nasals					
	m	*n*	*ny*		
prenasal					
	mb	*nd*		*ŋg*	*(ŋgb)*
liquids					
		r, r/l			
		l, l-r			
semivowels					
	w		*y*		

Meeussen (1967 : 83) reconstructs Proto-Bantu consonants as follows :

MEEUSSEN (1963 : 83)

nasals	*m*	*n*	*ny*	
voiced	*b*	*d*	*j*	*g*
voiceless	*p*	*t*	*c*	*k*

He comments : “the series /b, d, g/ is often attested as fricative (and /l/ rather than /d/), but this seems to be an allophonic difference, since the contrast with /p, t, k/ is practically everywhere a contrast between voiced and unvoiced (even in those parts which have the additional contrasting feature of fricative versus stop).”

“Instead of /c/ one might just as well use the symbol /s/ ; likewise, /z/ or /y/ instead of /j/ (and /l/ instead of /d/).”

All this looks remarkably like what happens in Sumerian. The problem regarding “voiced” and “voiceless” stops in Sumerian (Hayes 2000 : 25) is even more serious. And Meeussen’s remarks about consonant notation could well refer to the Sumerian orthography.

Prenasalised Consonants

It is also worth noticing that Meeussen sets up doubled nasal consonants and **prenasalised** oral consonants. Hinnebush (in Bendor-Samuel 1989) goes on to discuss Bantu spirantisation, which occurs under special conditions “in most of narrow Bantu”. This is related , I think. Nasals tend to induce spirants.

Meeussen (1967: 83) : “An alternative to the analysis using four different nasals is to consider the first element in the whole set an indeterminate nasal : Nm, Nb, Np, Nn, Nd etc. It is of course possible to interpret each of the items in the table as an undivided unit (^{n}m, ^{n}b, ^{n} p, ^{n}n, etc); in that case there are eleven or twelve additional phonemes.”

mm	*nn*	*nyny*	*(ŋŋ)*
mb	*nd*	*nj*	*ng*
mp	*nt*	*nc*	*nk*

So Stewart, Bender and Meussen all reconstruct prenasalised consonants. I consider these tended to fricatives, whence “Bantu spirantisation”, Bender’s Central Sudanic fricatives and the like. We are dealing here with consonant grades such as were identified by Sapir (1971) for Atlantic, and reconstructed by Stewart for PPAB. The *d* is due to prenasalisation of *l.* The *r* is a fricative grade of *l* . Sandhi type phenomena underlie the additional consonant grades over and above the plosives. I recognise a further zero grade, in which the fricative grade is completely lost. The nasal grades often come from the old Central Sudanic preposed nasal article, which has weakened and been lost. See Vekens on Mangbetu.

As far as the problems with Sumerian (and Bantu) “voiced” and “voiceless” plosives *b, p* etc are concerned, we might attribute the voicing to a lost nasal grade, which voiced the plosive and then turned it to a fricative. The fact that these nasals often survive in Bantu (but not elsewhere) is a problem for Greenberg’s view that Bantu is late, a subgroup of a subgroup. We will shortly discuss these matters with reference to Sumerian.

Westermann's Consonants

Westermann (1927), on early PWS, presents a situation which is much more simple, perhaps too simple. Thus on pg. 198 he tells us that the "Ursprüngliche Konsonanten" of PWS are:

k	*t*	*p*
g	*l*	*b*
(ŋ)	*n*	*m*

He does not reconstruct any original semivowels, fricatives or sibilants, does not distinguish between *l, r,* and *d,* and is doubtful about the velar nasal (not original) which he transcribes in the old style as *n* with a superscript dot. Note however that he adds "In den >>Sudansprachen<< S.198 habe ich eine doppelte Reihe der Lenis-laute angegeben: *g, d, b* und *γ, l., w.* Ich bin heute überzeugt, daß nur eine Reihe anzusetzen ist, daß das alveolare *d* des Ewe und anderer Sprachen eine spätere Entwicklung ist und daß sowohl *w* wie γ auf älteres *g* zurückgehen. Für *w* und γ ergibt sich das aus dem Stammwörterbuch, für alveolares *d* vgl. z. B. 26. 296. 308. Stu I S. 69f ". (His Sudansprachen was published in 1911). His system apparently takes us back to before the different consonant grades had evolved.

In the next paragraph he adds "Über die genaue Artikulation der ursprünglichen Laute kann natürlich Bestimmtes nicht ausgesagt werden". He points out that Ga and Guang distinguish retroflex *d* & *l* and that Yoruba distinguishes *l* & *r*. Since *g* has two distinct sets of reflexes he distinguishes plain *g* from underlined *g* > *γ, w* or *y*, (but in a few languages remains as *g*). The labiovelars and related sounds appear to have developed from sequences of velar consonant + labial vowel. Westermann underlines certain cases of *u* to show pronunciation as *w*. Often a consonant can be shown to have been lost before the *u.* In fact consonant loss, especially before initial vowels, or intervocalically, is a feature of Western Sudanic languages. Initially it produces vocalic prefixes, often of evanescent meaning.

In general the Niger-Congo languages show a great range of vowel and consonant sounds many of which are secondary and have developed locally out of allophones. The consequence is the creation of lexical variants which tend to specialize in meaning and become new words. We probably cannot hope to recover all the details of the various protolanguages. One should aim, as Westermann did, at simplicity in these matters wherever possible. His vision gives us clarity amid great complexity.

Sumerian Consonants

Hayes (2000: 25) lists the following consonants as "fairly uncontroversial".

b	p	m	
d	t	n	
g	k	ŋ	
z	s		š
	h		
l	r		

Of the above Hayes states that h is the uvular fricative [x]; š is the palato-alveolar fricative [sh]. The velar nasal ŋ has been inferred from various spellings with *m, n, g,* or *ng.* Some interpret it as a palatal nasal or a labialised velar nasal. We regard the probable value as a (possibly labialised) velar nasal. The sound is transcribed here as *ĝ*. Evanescent final nasals explain why this sound alternates with *g.* To make it labialised as well is more problematic.

If we apply Niger-Congo comparisons to the problem of *ĝ*, we can take the Sumerian word *ĝá-e* "I, me" which matches Bantu *ñga, ñka* (Johnston 1922: 448) "I", which Johnston describes as from an initial *n* followed by a demonstrative or root for "am". Compare Meeussen (1967: 105f). We can also compare Sumerian *ĝi* $_6$ "night, black" and Sumerian *ĝiš* "tree" with Westermann's *gì* "black", and *gít* "tree". The underlined *g* in Westermann is nowadays interpreted as a lenis labiovelar. But lenis sounds tend to be induced by a preceding nasal: *ŋg* < *nk*. The plurals given by Johnston for the pronoun first person frequently have a *w.*

The Sumerian *h, h* (with a saucer under it) comes from a weakened Niger-Congo *k*. Thus Sumerian *har* "ring, small" (also written *àr*) must be Westermann's *ka* "ring", Bantu *ka* "small" etc. Compare Sumerian *hu* "bird" with Westermann's *ku* "parrot", Bantu *kucu* "parrot" etc. With Sumerian *hul* "hostile, kill, destroy" compare Westermann's *kú,* Senufo *ku-li* "to kill", PWN *KU* "to kill". It is clear from Westermann's examples that *ka* "ring" is frequently preceded by a nasal which would weaken the *k.* PWN has *KWAT* "ring" (with *w*). An interpretation as an uvular fricative therefore seems reasonable. For the sound change compare PWS *ká* "to say", Edo *χa* "to say". Further discussion *infra*.

"Voiced" Plosives

Hayes lists three pairs of stops which appear to differ in voice: voiced: *b, d, g*; voiceless *p, t,* and *k.* In Akkadian the difference was one of voice. Hayes: "In Sumerian, however, it is probable that the difference was one of aspiration". Thus he interprets *p, t, k* as *ph, th, kh*. This recalls the customary Niger-Congo reconstruction of lenis as opposed to fortis plosives. Meeussen (1967 : 83) remarks on Bantu : "The occurrence in the reconstructed lexicon of complexes with voiceless consonants is ... much restricted". Westermann (1927) reconstructs over 30 PWS roots with initial *b* and about the same number with initial *p* however, and about 70 with *g* (both types included), about 88 with *k* (including *ku*). The matter is not straightforward in PWS.

Some support for the lenis view may be found if we compare Sumerian *pàd* "to call", "declare" (also *pà, pà-da*) with PWN *PHOPH* "speak" or perhaps Sumerian *pa-àĝ* "nostrils" with PWN *PHÚNA* "nose", or Sumerian *pirig̃$_2$, pirig̃$_3$* "shining", and "light" with PWN *PHI* "burn (fire)". Against this we can cite *peš$_7$* "infant, son" corresponding to PWN *BÍ* "child". The following example is also not favourable: Sumerian *ba-da-ra* "dagger" but PWN *PHÁN* "cutlass". If we look at Proto-Niger-Congo **t* we find PWN *TÍ* "tree" (not **THI*) to match Sumerian *^{ĝiš} tir* "forest", PWN *THUM* "send", to match" Sumerian *tumu$_2$* to carry, transport, (but PWN *TUT* "to carry"). The distinction made in Niger-Congo between fortis and lenis plosives is secondary and rather unstable. Many words also occur in PWS (and derivatives) either with a *p* or a *b* for example : *bàt* "swamp", *pat* "swamp" (note also the difference of accentuation); *g* or *k, gá(n)* "big man, chief", *ka* "king"; *t* or *d, ta, (da)* "not".

There seems in fact to be a kind of equivalence between Sumerian *p, t, k* on the one hand, and *b, d, g* on the other. They may be interchanged. One suspects voiced and voiceless realisations of the same original sound, perhaps an alternation of voiceless plosives with corresponding voiced fricatives. It should also be remembered that a voiceless:voiced opposition is apparently seen in *s, š* as against *z.* Often *z* corresponds to Niger-Congo *d.*

On the other hand Sumerian *d* and *b* seem too frequent in relation to the "voiceless" equivalents *t* and *p.* See the following Tables of Consonant Correspondences. Even *g* and *k* do not have plausible frequencies for voiceless and voiced plosives. Hayes (2000) p . 25 notes that at least in the early periods of Sumerian "in general Sumerian words with initial (and sometimes medial or final) "voiced" stops appear in Akkadian with voiceless stops: Sumerian barag, "throne dais" > Akkadian parakku; gala, "kind of priest" > kalû. Similarly, early Akkadian loanwords into Sumerian show the opposite phenomenon: Akkadian tamhāru, "battle" > Sumerian dam-ha-ra". Since Akkadian had a voiceless: voiced distinction these

confusions suggest a systematic phonological difference between Sumerian and Akkadian. Hayes gives the example of Chinese to support the possibility of an aspirated : unaspirated distinction. Compare the spellings Peking vs. Beijing.

It has been known since the time of Westermann that lenition of consonants in Niger-Congo fluctuates and is unstable. The Sumerian fluctuation between "voiced" and "voiceless" stops perhaps fits with this explanation. Meinhof however often reconstructed fricatives in his version of Urbantu. Meeussen sees these as allophones. The matter needs further investigation.

Mukarovsky's Reconstructions

If we compare Mukarovsky's Lenis Plosives with Sumerian cognates we get the following :

PWN *BHÀBHÁ* "father", Sumerian *a, a-a.* Presumably *a = ā.*
PWN *BHANG* "shine brightly", Sumerian *an* "the sky"
PWN *BHO, BHOM* "be wet", Sumerian *umah* "marsh", *umun₄* "marsh" (with *u = o*)
PWN *BHÚA* "dog", Sumerian *ur* "dog" (alternative derivation possible)
PWN *BHUNKO* "brain", Sumerian *ugu* "cranium"
PWN *BHUNT* "penis", Sumerian *ùz, ud₃, ut₃* "he-goat"

PWN *PHÁ* "give", Sumerian *á* "hand, force"
PWN *PHAL* "scrape", Sumerian *ĝiš al* "hoe"
PWN *PHET* "blow, fan, winnow", Sumerian *eššu* "ear of corn" (*t > *š*)
PWN *PHI* "burn", Sumerian *izi* "fire"
PWN *PHOPH* "speak", Sumerian *ù* "cry" (with *ù = o*)
PWN *PHUL* "to boil", Sumerian *ul₄* "to go fast"
These all have PWN *BH/PH* = Sumerian zero. Examples with *GH/KH* behave similarly.

PWN *GHIDU* "top, head", Sumerian *ìdu₈* "porter, gateman"
PWN *GHUL, GHYUL* "to fly", Sumerian *ulu₁₈* "to blow a tempest" (also *u₁₈ –lu,* with syntactic "split', indicating two once independent elements as often in Sumerian)

PWN *KHUN, KHUIN* "copulate", Sumerian *un* "people, population"
PWN *KHUPA* "eyelid", Sumerian *ub₄* "cavity" etc
PWN *KHUTAN* "sheep" (goat), Sumerian *udu* "sheep, small beast", also *u₈, us₅* "sheep"

Dental examples :

PWN *THÁTHU* “three”, Sumerian *àš, aš* $_4$ *, aš* $_3$ “six” (doubled)

PWN *THITHUKA* “night”, Sumerian *iti, itu, itud* “moon”

PWN *THUM* “mouth, lips”, Sumerian *ù* “a cry, dispute”, *mu* “to speak” (nasal grade)

PWN *THU* “water”, Sumerian *umun*$_3$ “marsh”, *tu*$_3$ “to pour water”, *šur* “to weep”

PWN *THIM, THIUM* “stand”, Sumerian *umum* “idea”, *umuš* “comprehension” (under-stand)

PWN *THÍ, (THÍNA)* “father”, Sumerian *im-ru, im-ri* “parents”, *isimu*$_2$ “descendance”

The lenis plosives therefore typically give zero in Sumerian. Other grades are possible.

Mukarovsky does not list a lenis *D* . He regards *L* as the lenis equivalent. We can cite :

PWN *LAK* “jaw”, *LAM* “lick”, Sumerian *lag* “morsel”

PWN *LAN* “shine”, Sumerian *la<u>h</u>* “to shine”

PWN *LÈM* “heavy, difficult”, Sumerian *lá* “lift, load a boat”, *la<u>h</u>*$_5$ “carry several objects”

PWN *LI* “family”, Sumerian *libiš* “family”

PWN *LÓND* “sore”, *lugud, lugûd* “pus” (The *ĝ* includes the *N*)

PWN *LÚB* “dip in”, *LÙ(G)* “leak”, Sumerian *lu<u>h</u>* “to wash, bathe”

PWN *LUM* “to suffer”, Sumerian *lù* “to be distressed”

But these retain the *L* in Sumerian, which is not a lenis development. They clearly represent Niger-Congo *L. See infra under *r, l, d.* For lenis **D* we should have zero developments in Sumerian such as :

PWN *LÍMA, (LÍAMI)* “tongue”, *LÉLUM* “tongue”, Sumerian *eme*

PWN *LINGI* “water”, Sumerian *i-da* “river”, canal”, *idim* “subterranean waters”

PWN *LUL* “shouting”, Sumerian *ù* “cries” ?

PWN *LOT, (LOD)* “dream”, Sumerian *ù* “sleep”

PWN *LÙL* “be bitter”, Sumerian *úh* “poison”

PWN *LUI, (LU)* “wear clothes”, Sumerian *ulul* “harness”

PWN *LÙG, (LÙ)* “drip, leak”, Sumerian *umun*$_5$ “marsh, stagnant waters”

PWN *LOD, (LUD)* “look at”, Sumerian *uru*$_2$ “watch, protect”

So we have confirmation of loss of lenis *d = l* (probably = *d.* retroflex).

In general the lenis developments remind us of the complexities caused by sandhi, which are due to the influence of preceding sounds on a following consonant in the next word. Classifiers and lost Classifiers are a consideration here. Compare the consonant grades of Fula and Atlantic languages. Hypothetical implosives are unlikely to be responsible for this situation, though they may indicate juncture, I think.

The Sumerian *š* normally corresponds to Niger-Congo *t*, which readily changes to *ts.* Thus Sumerian *ša*$_5$ "to cut reeds" is from PWS *ta* "hand ", Agni *sa* "hand", Bantu *tand* "to cut" etc. Sumerian *šár* "to be numerous" is from PWS *tá* "to count", and Sumerian *še* "grain, measure of grain" is related to PWS *tè* "to cut" ("to harvest"). The true value of Sumerian *š* may be [*ts*]. This may be sometimes levelled to *s.*

Sibilants

There are serious problems regarding the Sumerian sibilants *z, s, š* due to uncertainties regarding the pronunciation of the Akkadian sibilants. Thus Boisson (1989), interprets *z, s, š* as *ts, s, θ.* By using Niger-Congo comparisons it is possible to establish that Sumerian *s* typically comes from Niger-Congo *k.* This is a very common sound change in Niger-Congo. Likewise the proposal to take Sumerian *š* from Niger-Congo *t* also invokes a very common Niger-Congo change. It is possible therefore that Sumerian *z* stands for *dz.* Or even for *ts*. Thus Sumerian *zá* "rock, gem" may be related to PWN *THÁLA, THÁLI* "stone" (rock). Compare Sumerian *zalag*$_2$ "light, brillance", *zalag* $_2$ *-ga* "sun" with PWS *tá* "fire". The question arises whether Sumerian has syncopated *zá* "rock". Sumerian also has *zé* "to cut" which must be PWN *TEM* "cut down", PWS *tè* (+ Nasal) 'to cut". Sumerian *zú* "tooth" must be PWN *DÚM* "bite" [*D* > *z*], Mande *du-gu-ma-n.i* "lower teeth". The problem of Sumerian "voiced" consonants again raises its head.

PWS *gi* + *a* gives *dz* (or similar) in words for "blood", "red", "witchcraft". PWN *GHÌÁ, KÁL* "blood", Mangbetu *nzenzere* "red", Bantu *gi,dá, gadi,* "blood". This is a clear case of *d* > *dz,* often with a prefix preceding. The prefix is seen in Mangbetu, in Yoruba *a-džé,* "witchcraft", Ewe *ka-dze* "blood", Igbo *a-dža* "sacrifice". Sumerian has *múd* "blood" (cf Swahili *damu* "blood", *sa*$_5$ "red", the second of which is related to *dza, za.* The *i* may have been involved in the change to *dz.*

There is interchange and alternation in Sumerian not only between the two sets of plosives but between the various sibilants, and the original Niger-Congo consonants from which they have come.

Palatals

Stewart (1983) recognises fortis and lenis voiced palatals in Niger-Congo. This would explain the vacillating behaviour of sibilants in Sumerian. In the Comparative Dictionary in Part II of this book I do not derive sibilants from Niger-Congo palatals. The Niger-Congo palatals all come from palatalised velars and nasals. They are relatively few in number. And the non-

palatalised equivalent continues to exist alongside the palatal. So I go back to the velar or dental. Westermann often prints *k'* to show a palatalised variant.

It is nevertheless possible to match some of Mukarovsky's palatals with Sumerian sibilants. Thus PWN *CET* "cut" matches Sumerian *zé* "cut" (probably also Sumerian *še* "grain" – from cutting, harvesting grain -). PWN *CÍN* "horn" matches Sumerian *si* "horn". On the other hand PWN *CÍ* "country" corresponds to Sumerian *ki* "land" (no sibilant). Possibly PWN *CI* "pestle" matches si_{14} "small pot" (also *si* "to hold upright". PWN *JAM* "animal, meat" must be Sumerian *šà* "heart, intestines, abdomen". PWN *JALI* "woman" is for Sumerian *šal* "uterus, woman, small" (same conjunction of meanings in Niger-Congo). PWN *JEL* "shine", *JÉL* "moon" must be related to $zalag_2$ "light, brilliance" and $zalag_2$ *–ga* "sun". PWS *tá* "fire", Guro *tje* "fire" (the sun, like the moon, was "fire"). PWN *JAG* "enclosure" matches Sumerian *zag* "sanctuary". There is ambiguity in the Niger-Congo palatals as some come from k^i, some from t^i. These gave *s* and *š* respectively. Palatalisation was an unstable and uncertain process. See Mukarovsky's examples, with Bantu equivalents.

"Liquids"

Hayes notes that "There is little evidence to indicate the type of / r / Sumerian may have had". The Sumerian *r* was possibly uvular, and not a flap, he says. But Delafosse distinguishes in Mande a liquid, rolled *r* from a uvular variety *rh.* The reconstructions of Niger-Congo by Stewart & Mukarovsky do not recognise an original *r,* only an *l* and a *d.* Nor does Westermann recognise original *r* in his PWS. The sound *r* is treated as a variant of *l.* Niger-Congo *l* and *d* are both regarded as alveolar. Bender (1989) on PCS recognises *r, r/l, l, l~r.* Mangbetu, a Central Sudanic language, has *d, l, r.* One is inclined to reconstruct *d* as a pair to *t.* But Niger-Congo *d* is often retroflex [*d.*]. One suspects that it was retroflex [*d.*] that was lost in Sumerian. It is the lenis equivalent of plain [*d*]. The retroflex [*d.*] is heard in Sanskrit, Dravidian and in Calabrese (South Italy). It is due to the tongue performing gymnastics when problem combinations of consonants occur particularly between words.

Mukarovsky (1976/77) treats Niger-Congo *l* as lenis, but *d* as fortis. Stewart (1983) has both fortis and lenis forms of *d,* together with *l* and (non-phonemic) nasal *Ĩ.* Stewart (2002) reconstructs PPAB and sometimes Bantu implosive *d on the one hand, and nasal *l* [*Ĩ] in alternation with Bantu *d* on the other. We will look at Stewart's reconstructions in the light of Sumerian. **Non-italic *d** is here an implosive.

Stewart has implosives in PB (Proto-Bantu) & PPAB (Proto-Potou-Akanic-Bantu).

PB *d*el* "become suspended", Sumerian *dár* "belt, tie", also *dar*$_4$ "high" (*lál* "suspend")

PB *d*a* "lie down, sleep", Sumerian *dag* "place of repose"

PB *d*e* "today", Sumerian *dadag* "bright, pure", *dalla* "light, bright'

Bantu *d*it* "heavy", Sumerian *dir, diri, dirig* "excessive, extreme, difficult"etc

Sumerian has *d* here. No evidence for an implosive.

Implosives in PB but hypothetical "nasals" *^{n}ʊ in PPAB.

PB *$\tilde{I}\tilde{a}$ "follow", Sumerian *la*$\underline{h}_4$ "to chase", *lal* "to march, attack"

PB *$\tilde{I}\tilde{a}mb$ "become starved", Sumerian *lalla* "penury, deficiency"

PB *$\tilde{I}\tilde{a}m$ "stick to", Sumerian *làl* "honey, date syrup"

PB *$lʊʊ$ "make a mistake", Sumerian *lù* "embarrass", *lúġ* "error, fault"

So PB *$\tilde{I}$ matches Sumerian *l.* Again no evidence for an implosive.

PB *$\tilde{I}$* corresponds to PPAB *$\tilde{I}$.* Common Bantu has *d* here.

PB *$\tilde{I}\hat{e}\tilde{I}$* "look after (child)", Sumerian *de*$_3$ "advise, give instructions"

PB *$\tilde{I}o\tilde{I}$* "look at", Sumerian *dul* "protect" (look after)

PB **luk* "plait", Sumerian *dù* "work", *dun*$_4$ "to twist", *dur* "cord"

PB **lulu* "bitterness", Sumerian *lul* "to abuse"

PB *$\tilde{I}\tilde{\imath}\tilde{I}\tilde{\imath}$* "cold", Sumerian *líl* "wind"

The *$\tilde{I}$* corresponds to *d* or *l* in Sumerian. Grades of original *l ?

In Proto-Central Sudanic (Bender) we find that one of the original words for "go" (motion) was **la.* This matches Sumerian *rá* "to come, to go" etc. Compare Sumerian *lá* "to carry". Stewart (2002) has 79 CB *-dà[nd]-, PB *-Ĩã-, PPAB *-^{n}ʊã "follow". The Sumerian word for "deluge" is *ra.* This comes from PWS *la* "sky, day", since rain came from the sky ?. Sumerian *ri* "this" matches the Niger-Congo demonstrative *di, ri* which may be pre- or postposed. In general words beginning with *r* are relatively rare in Sumerian.

Sumerian appears to have a **rare phoneme transcribed / *dr*/.** Eg ^{ĝis} *ĝidru* "sceptre" (also *gidri, gidru* etc). The sound is considered to be distinct from *d, t,* and *r.* I suspect that this may be like the rare *R* heard in Calabrese. A Niger-Congo etymology however casts some light on the problem. PWS has *gí, (gít)* "tree", but also *luá, (dua)* "tree, wood" . Now Atjulo has *da-u* "tree", Barba has *dā-ru* "tree". So this *dr/d*^{r} is from *d-r.* It is seen in Greek *drys* "oak tree", also in the word *Druid.* The *a* has been lost. here we have a remarkable justification of Niger-Congo etymologies – not to mention evidence that Indo-European is related both to Sumerian and to Niger-Congo.

Nasals

The PWN velar nasal is perhaps seen in

PWN *ŊIU, (ŊIUM, ŊU)* "to drink", Sumerian *nundum, nundun* "lips", *umun*$_5$ "stagnant water" (compare *i*$_7$ "river"), Bantu *nyó* "drink". Westermann PWS *nu, ni* "drink", with reflexes commencing with *ŋ* but also *ny* (palatal *n*). Edo *ŋwo, mwo,* Efik *ŋwoŋ* "drink". Bender (1989) has however *mbu "drink". Mangbetu has *ombuo* "drink". Mande *mi-ni kè* "drink".

PWN *ŊUN,(ŊUNK)* "to smell", Sumerian *nug* "aromatic plant", *ú* "plant, nourishment", Bantu *nu,nk* "stink", *du,mb* "smell". Bender (1989) *ŋgo, *ŋgu "smell". Mangbetu *oga* "smell". Congolese Ngala and Poto have *nsulu* "smell". [*s* > *k*].

This velar or palatal nasal must have been a prefix (> nasal grade). A prefix on a verb ?

The PWN labialised velar nasal *ŊW* cannot be identified as such in Sumerian. Compare however

PWN *ŊWÁT* "star", Sumerian *mul* "star", "planet", *šún* "star", Bantu *jota* "star", *jengedi* "star". Bangi *moto* has the *m* of Sumerian. Mangbetu *tulu* "star", Mande *lolo, dolo* "star".

PWN *ŊWÁL* "moon", Sumerian *ud-sakar*$_3$ "moon", *šár* "totality", "whole world", PWN *JÉL* "moon", Bantu *cani,* "moon", *gonde* "moon". Ngala *sanja* "moon". Mangbetu *ngwe* "moon". Mande *kālo,* D *kāri* "moon". The *ud-* is from *tu "roast".

PWN *ŊWÁKÌ, ŊWÁTÌ* "smoke", Sumerian *i-bi*$_2$ "smoke", Bantu *jóki,* "smoke", *ju,ki* "smoke". Kongo *mwisi,* Ngombe *modidi,* Kele *molilia* "smoke". Mangbetu *ko* "smoke", Mande *sisi, wusu* "smoke".

These PWN combinations must be mostly from earlier *N-GHW (< **K). But "star" < **T. They are nasal grades. Compare Meeussen's prenasalised plosives.

Of the other possible consonants mentioned by Hayes for Sumerian we will now consider the prenasalised stops, such as *mb* which are a prominent feature of Niger-Congo, and the labialised consonants which are one of the special hallmarks of Niger-Congo ex Nilo-Saharan (Central Sudanic). In a number of cases Sumerian *m* can plausibly be derived from Niger-Congo *m + b* for example. We have already mentioned that *ĝ* may in some cases incorporate a following *w*.

***N = **NT**

PWN *NINTU, (NITU)* "man", Sumerian *ní* "man", *nitah, (nita*$_2$*)* "man", *na* "human being", *nu* "image", PWS *ni, nu* "man", Wolof *nit* "man", Bulom *nia* "people" FROM *tu* "head"

PWN *DÌ- NÁ* “fire”, PWS *na* “fire”, Yala *o-la* “fire”, Sumerian *laḫ* “to shine”, PWS *tá* “fire”, Adele *o-táŋ* “fire” FROM *ta* “fire”

PWS *na* “not”, Sumerian *na* “not” FROM PWS *ta* “not”

PWS *ta* “stone”, Sumerian *ma₄* “stone”

PWS *tum* “to work”, Sumerian *nu* “not”, “without” FROM **tu* “hand”

PWN *BÚNE* “mosquito”, *BUNK* “worm”, Sumerian *num* “flying insect”

***M = **MB**

PWN *MÓN, (BHÓN)* “see”, Sumerian *múš* “appearance, aspect” (The lenis stop is preserved due to prenasalisation)

PWN *BI* “give birth”, Sumerian *mi* “woman”

PWN *BAK* “knife”, Sumerian *ma₈* “to cut”

PWN *BUD* “kill”, Sumerian *múd* “blood”

PWN *BOP* “to bind”, Sumerian *ma* “to attach”

PWN *BUL* “to speak”, Sumerian *mu* “word, speak”

PWN *BU* “wear clothes”, Sumerian *mu₄* “to put on clothes”

PWN *BUT* “to beget”, Sumerian *mud* “to give birth”

It has been argued that Proto-Niger-Congo did not have nasals. But the high frequency of nasal grades caused by nasal prefixes suggests the contrary. What nasals remains open. Our Comparative Dictionary has numerous examples of *m* and *n* fromPWS and PWN **m* and **n*

PWN *MAN* “know”, *MIN* “know”, Sumerian *man, mana, mìn, mìna* “compagnon”

PWN *MÓN* “see”, Sumerian *máš* “inspect”

PWN *MUAL* “to shine”, Sumerian *mèl* “burning’

PWN *MUA* “knife, razor”, Sumerian *mù* ‘to cut’

PWN *MUAT* “laugh”, Sumerian *mud₅* “jubilation”

PWS *ná* ‘to give”, Sumerian *na-ri* “instructions” (plural suffix *–ri* ?)

PWS *ná* “fire”, Krao *ne* “fire”, Sumerian *ne-mur* “fire”

PWS *ni* “this”, “somebody”, Sumerian *ni* “he, she, this”

PWS *ni* “four”, Sumerian *niš* “twenty” (four hands)

A degree of semantic shift in these items shows that Sumerian has moved outside Niger-Congo in the strict sense.

Proto-Niger Congo did not have the semivowels *w* and *y*. Nor does Meeussen reconstruct them for Proto-Bantu. See Mukarovsky however for *W & Y.* Niger-Congo did form labiovelars from sequences of velar consonant + labial vowel, however. Westermann sometimes underlines the labial vowel after *g* to indicate pronunciation as *w.* There is a development of Niger-Congo labiovelars to *w,* which may be lost. The existence of (lost) reflexes of labiovelars is evidence that Sumerian came from Niger-Congo.

Labiovelars & Semivowels

Semivowels are not generally admitted for Sumerian. Some have supposed they occur as phonetic glides in words such as *a-a* "father" (hypothetical *aya*).As this word has a lost labial a *w* (from *b*) would be more plausible here. Niger-Congo *b* > *w.* We can test the hypothesis that in Sumerian labiovelars developed to *w,* then to zero, by comparing some examples from Mukarovsky (1977). Mande (Delafosse) has both *w* and *y.* PCS is reconstructed with *w, y* by Bender (1989). Mangbetu (Vilkens) has *w* and *y.*

Comparative examples from Mukarovsky follow.

PWN *GWAL* "arm, hand", Sumerian *á* "arm, strength" (also a_5 "make"). PWS *guà* "break".
PWN *KWÀN* "arm, hand", Sumerian " *á* "arm" etc (cf the accents of this & preceding)
PWN *GWÀL* "to flow", Sumerian *a* "water, canal" (or *(m)a* ?)
PWN *GWA, GWYA-T* "answer", PWN *GWAM* "speak", *GWAN* "tella tale", Sumerian *ad, ada* "a shout" . (This ex. has *M/N* alternation as in Sumerian). PWS *guè* "voice" (or *gwi ?)
PWN *GWIN* "cover", Sumerian *in* "straw".
PWN *GHWÍN* "sun", Sumerian u_4 "day". Bantu *júba* "sun" ?
PWN *GWIMBE* "dust", Sumerian *im, imi* "clay, clay tablet"
PWN *GWOL, GWON* "sleep", Sumerian *ù* "sleep" [*O = u*]
PWN *GWU* "sheep", Sumerian u_8, us_3 "sheep", "goat"
PWN *GWÙN, GWYÙN* "bird", Sumerian u_3 "rooster, male bird" (cf *ku* ?).
PWN *KWUBA* "skin", Sumerian ^{kuš}*ùb* "tambourine" (made of leather).
PWN *KWUL* "be big", Sumerian u_{18} "enormous".
PWN *KHWÚPÀ* "bone", Sumerian ug_5 , ug_7 "cadaver, die" etc. But Sumerian gir_2 "bone".

For "bone" Westermann has PWS *kú, kúp, kúa,* with reflexes such as Ewe *ɸú, χú,* Uwet *ke-kup,* Likpe *di-kúbi,* Avatime *i-kúi,* Gurma *du-kpabe-re,* Akassele *dó-kpó-rè,* all meaning "bone".Bantu *kú,pa* "bone". Heine give Togo Remnant *li-kúpá.* But PWS *kú, kúá, kúí* "die, kill, corpse", Edo *kwí-li, kpí-li* "to kill" (W. 1927 : 237) is related, with common reflexes in Group IV (Gur) *k'i, kpi,* Gurma *u-kpi* "death". Sumerian gir_2 "bone" derives from a form with

i-vowel and *–r- (-l-)-* suffix. Sumerian *ug* may have final *g* = [*k*] due to reduplication as in Ewe *kùkú* "death". Sumerian *gag* can also be used for "bone". One suspects loss of *w,* Kwa *kwá,* Okoy *kwa,* Dewoi *kpá,* Bassa *kpa* "bone". But compare PWS *guá* "gate", Sumerian ^{ĝiš} *ká* "gate", but also ku_4, kur_9 "gate". Alternative developments of the same word, or *ka* > *gua* ?

It is also worth mentioning here that PPAB (Stewart) has *k^{w}*ivi* "hit" > Sumerian *i* "beat", and also *k^{w} ɪlɪ̄* "pull" > Sumerian *il* "to transport" (by pulling ?). This suggests that Stewart's implosives (which we write as non-italic) have the same reflexes in Sumerian as normal plosives.

NOTE : Confirmation comes from examples such as PPAB *p*ati* "hold", S. *bán* "big pot, measure of capacity", PPAB *p*u* "stomach", S. *bur* "pot", S. *pú* "cistern", PPAB *b*ulu* "beat, hit", S. $buru_{14}$ "to harvest", S. *bul* "to shake", PPAB *bɪlɪ̄* "become cooked", S. *bil* "cook", PPAB *bɪlɪ̄* "dirt", S. bi_7, *bid* "anus", PPAB *bɪnɪ̄* "break", S. bu_6, $buru_{12}$ "break, cut", PPAB *d*a* "lie down, sleep", S. *dag* "lie down sleep", PPAB **de* "today" (*la, ra, da*) S. *dalla* "ray of light". We do not need Srewart's implosives to explain Sumerian.

An interesting conclusion from the above analysis is that the Niger-Congo labiovelars may be caused by prefix reduction. The labiovelar is lost (via *w*) in Sumerian. But behind the labiovelar lies an eroded prefix. Niger-Congo has hidden depths.

Alternative explanations to the labiovelar derivation exist in some cases. But overall the labiovelar hypothesis is convincing : *GW > *w* > #. This includes *GWH, KW, KHW* etc.

For ***Y* - loss** compare PWN *YÌC* "eye", *(YÌNC, NÌC),* Sumerian *igi* "eye" [*nyi* > *yi* > *i* (+ *gi*)], ^{ĝiš} *ik* "gate" (Cf "eye of needle" = "gate"). Possibly PWN *YÍ, YÍT* "call by name", *YÍTU* "name", *YIKU* "taboo" is related to S. *in* "insult". And i_4 "five" < **yi* < **nyi*. PWN *YOM* "live" perhaps gives Sumerian *um, umu* "old woman", Bantu *gumi* "life", Ngombe *bomo* "life" (< *gw*-). PWN *YAT* "boat" may be responsible for Sumerian *ád, ad-*da_4 "send" (by boat ?). Sumerian *ta* means "for, towards". Thus *d-d* would be from *t(V)t* here.

We can take matters further by comparing Stewart's (2002) roots with *y*.

CB **yók[-]à* "snake", Sumerian ug_7 "kill" ?

CB **yéné* "chief", Sumerian *en* "lord" (*e-ne* "him, her")

CB **yútù* "body", Sumerian *uzu* "meat", *utua* "tame beast"

CB **yìgí*[-]*ad* "shut", **yìgí*[-]*ud* "open", Sumerian ^{ĝiš} *ig* "gate"

CB **yàmbí*[-]*é* "God", Sumerian *an* "sky, sky god"

CB **yò* "female genitals", Sumerian ub_4 "hole", *ubur* "breast"

We can confirm that Sumerian definitely lost historical *y*.

Compare also (with palatal)

CB **jùdú* "top, sky", Sumerian ^{d} *utu* "sun-god"

CB **cí* "his father", Sumerian *ì-bí-la* "son, heir"

The palatal seems also to have been lost here.

I originally thought Sumerian *h* was *hw* or the like, on the basis of

PWN *JÁK, (GHWYÁK)* "year", Sumerian *har, ar* "year", "young", Bantu *ka* "small"

PWN *GHWYÁN* "child", *JALI* "woman" (small women), Bantu *kadi* "woman"

PWN *GHWÍLI* "hair", Sumerian *hi-li* "numerous", "sexual attraction" (in hair), *huz* "long hair" (also *guz*), Soko *ngwele* "hair"

But consider :

PWN *JOT* "burn" (fire), or *COD, (COL)* "fall in drops", Sumerian *hud* "morning" (*u = o*) ("fires of dawn"), Kongo *joka* "burn", Kongo *sonsa* "to drip"

PWN *JO, (JOL)* "dance", Sumerian *húl* "to rejoice", *húb* "acrobat" (*u = o*)

PWN *JID, (JIT)* "fear", Sumerian *huš* "frightening" (Bantu *joga* "fear", Ngala *jika* "fear") with *i/u* alternation

PWN *CÍ* "ground, country", CB *ci* underneath", Sumerian *hilib* "lower world", *i-dib* "threshhold", also *hubur* "lower world" (*i/u = o* alternation)

PWN *CUN* "bad humour", Sumerian *hul* "hostile" ?

PWN *CANG* "charm", Sumerian *har, ar* "ring" ?

PWN *CI* "pestle", Sumerian *hi, he* "to mix", Swahili *kinu* "to mix"

The Sumerian *h* is rightly taken as a type of χ. This may > *h* > #. The Niger-Congo palatals, both voiced and voiceless, go to Sumerian *h*. This proves that Voiced:Voiceless is not phonemic in Sumerian. The alternative development to zero must be the lenis palatal development. This creates a presumption that the plosives in general distinguished lenis (> #) versus fortis (> plosives). Fluctuations between *K, KY, C, Y* etc confuse the matter, as do developments of *T, TY* to palatals.

We are left with the problem of the "Voiced" versus "Voiceless" plosives in Sumerian. The lenis plosives, as we have seen, go to zero. Was voice simply non-phonemic ? Or is there some other explanation ? We regard the influence of a lost prenasal, probably an old article as the best explanation. This probably induced a fricative. This explanation will also account for

b/p, g/k, d/t in Sudanic languages. It makes Meinhof's reconstructed fricatives more understandable.

NOTE: Sumerian has a word *hé* "abundance, abundant", also a prefix *hé* (precative/affirmative) expressing approval. PWS *guà* "much, very much etc" (and PWS *ka* "flesh") is the probable source. Bantu has *jen* "abound". Mangbetu *jara* "abundance". This may be the origin of the Niger-Congo prefix *he-* found on Herero, Heiban (tribal names) = "numerous". There is also a common Bantu prefix *iki-* similarly used. Also the *eki-* of ekiHavu, ekiHaya etc. Compare PWN *KI, (KYI, CI)* "village, settlement" which may be the explanation of this latter.

On p. 26 Hayes (2000) states that "There is no clear evidence that **consonantal length** was a phonemic feature in Sumerian". The same could be said of Niger-Congo. Consider however Sumerian spellings such as *ab-ba, ad-da* "father", *akkil* "lamentation", *alla* "fish fillet". These are all medial. Long consonants are usually medial, as in Italian. Long plosives hold the closure. The are not reaaly "double". Poebel p. 35 treats secondary lengthening of consonants (*kukki, duddu(g)*) as evidence that a stress fell on the first element. We know this was the case in Niger-Congo disyllabic stems. Compare Calabrese *id.d.u* "he" (initial accent) = Latin *ille*.

Amissable Consonants

An important matter in Sumerian is the **amissability** of final (Auslaut) consonants. The situation is rather complex. Thus it has been said that in Sumerian final *b* is never lost, *d* is always lost and *g* is mostly lost. In this connection we recall that Westermann frequently reconstructs alternative forms of roots (really stem words), one form with a final consonant, the other without.

Examples
bà, bàl "to count"
bà, bàt "swamp"
(m)-bi, (m)-bin "dung"
(n.)-gua , (n.)-guan "calabash" etc.

He never reconstructs CV + *b* however. Nor does *d* ever appear in this position in PWS: it cannot because Westermann does not recognise it as original. In Westermann liquids and nasals are commonly amissable (as they are in Cretan Linear B).

In Westermann however the Auslaut consonants on a single word may not be the same. This indicates different suffixes, the root being originally monosyllabic.

Examples
ban, bal “man”
g̲ í, g̲ íl, (g̲ít) “tree”
kà, kàn, kàl “charcoal”

In Sumerian the suffixes may differ : *urudu, uruda* “bronze”, as in PWS. Again monosyllabic roots are the cause.

One may compare Sumerian *síg, sík* “wool” (also *siki*). The example in brackets recalls the longstanding dispute over whether Niger-Congo words originally had one or two syllables.

Poebel p. 22 says “Einfügung eines **unorganischen k** findet sich öfters nach auf a auslautenden Postpositionen (-da, -bida etc). He regards this *k* as often used to avoid hiatus. However it may be seen in the context of amissable final consonants. Just as shadow vowels come and go, so do “shadow consonants”. But in all probability this *k* is the remnant of a suffix such as the *–ke* seen in Soninke, Malinke etc. An example he gives is : “lú ne da k am” “mit diesem Menschen”. We regard it as possibly an old moribund plural. The usual context of these elements is Mande. A similar meaningless postposed *–ce* occurs in Latin. Not to mention the behaviour of final consonants in modern French.

Fluctuation occurs between *n & m, š & s* (also *z*). The *n/m* fluctuation may indicate that the nasal consonant is no more than a nasalisation marker on the preceding vowel. Compare the Latin final *–m.* Or again French. All consonants appear to have a zero grade.

On p. 22 Poebel mentions **“Einführung eines Zischlautes”** (inserted sibilant). The cases are isolated : *kisla̲h = ki-lá̲h* “abandoned city”, *guškin(g) = guškinn* (< *kù(g)-gin(g)*) “gold”. One suspects a weakened, rare infix. In Niger-Congo the commonest infixes are nasal. Sumerian *diĝir = dingir,* ES *dimmer* “god” has such an “infix”. Compare PWN *DIM* “spirit” (‘spirit of the sky’). The *–n-* is a velar nasal (before *g*). This would be an old suffix. But compare Mande *ni-n.ki, ni-n.gi* “spirit” (evil), which is an old prefix, and easier to explain.

Syllable & Accent

I consider Niger-Congo originally had a CV**CV**CV syllabic structure. See Westermann (1927 : 199). This hypothesis, which I call Template Theory, has implications for the position of the Sumerian stress accent. Loss of initial and final consonants and vowels indicates a central (or stem initial) stress, with relatively unstressed “prefixes” and “suffixes”. Greenberg assumed a low tonal accent (on the initial prefix) on Niger-Congo nouns. So also Meeussen

(1967 : 8) for a "low" pitch on nominal prefixes and some verbal in Bantu. Mukarovsky's reconstructed stems favour an accent, usually a high accent, on the first syllable of the stem. A sample of 50 exs from Mukarovsky gave the following statistics. H = high, L = low, N = no accent mark. Presumably no mark indicates "low" or "lower". Again we compare Meeussen's examples:

Mukarovsky		**Meeussen**	
HL	6	HL	48
HN	28		
LH	2		
LN	11		
LL	3		
		HH	2

No less than 34 stems out of 50 have the expected pitch pattern in Mukarovsky. In Meeussen the number is even higher (48), but his "ambivalent stems", p. 91, show fluctuating accents in related words, HH & HL; HH & HL, HL; NL & NN; NH & NN; HH & HL; NL & NN; HH & HN. The general conclusion is that HL was the norm. Other patterns are secondary.

This is further evidence that verbs were original nouns, since initial and final syllable erosion and loss applies equally to Sumerian verbs. Strong stress tends to correlate with high pitch in Proto-Niger-Congo. See Stapleton (1903) who treats the Bantu accent as stress. I am reluctant to regard the early scholars as totally deluded in this matter. Some N-C languages have primary stress.

Diakonoff says: "Sumerian was certainly a tonal language, or else the many homonyms would have made spoken Sumerian quite unintelligible" (1983 : 86). Hayes is not so sure. But Niger-Congo comparisons support Diakonoff. Pitch is very important in Niger-Congo. To some extent we can try to use reconstructions of Niger-Congo pitch accents in interpreting Sumerian. But Proto-Niger-Congo had (probably) only two pitches, high and low. In many cases we don't have reliable information even for these however. Sumerian pitch is obscure.

There is some evidence that Sumerian, like Mande, tended to eliminate the Niger-Congo CV prefixes. We have already discussed *eme* "tongue", which must be from **(d)eme*, PWS *lima* "tongue". Westermann (1927 : 251) has 16 reflexes of this word in groups I - V, all of them with vocalic or CV prefixes. The consonant is consistently lost in I Kwa and sometimes in group II Benue-Cross (which includes Bantu). Mande (Delafosse) has *nè, nè-ne* "tongue", *nè-*

nde “end of tongue”. The *nè-* may be from a separate word, but *nde* appears to have a nasal prefix, with loss of final CV **-me.* This is very like what happens in Sumerian. Songhai, “Nilo-Saharan” (Westermann 1920 : 214) has *dénè* “tongue”, without a prefix. Mangbetu (Vilkens) has *ndendengé* “sweet” alongside *lingo* “sweet” (with nasal prefix), which must be related. The nasal prefix induced the change of *l* to *d.* Edo has *–le-, -re-, -ne-,* showing the full range of variation. This illustrates the development of consonant grades. Both Songhai and Sumerian originally had a prefix on this word. The stress however was on *de.*

Compare Sumerian *ni, nitah, nita*$_2$ “man”, PWS *–ní-* “man”, which has vocalic prefixes (or no prefix) in Kwa, with a similar situation in Benue-Cross and elsewhere. Full prefixes in Boritsa, Avatime, Nyangbo, Gurma, and Temne. Prefix elimination (or lack of prefix) is common in Niger-Congo generally. Wolof has *nit,* Kussassi *ní-da,* but many N-C languages have only the root syllable *ni, nu.* So Niger-Congo shows the Sumerian reduction of CVCVCV to CV. We suggest that *ni, nu* is not original, but comes from *n-ti, n-tu* “man”, with *ti, tu* originally meaning “head”, as in Westermann, (Bantu *ntu* “man”). Sumerian *za* “thou” may be from *n(i)ta,* (with vowel loss), in which case “Thou” is equivalent to Colloquial English “man” = “you” (sg). Latin *tu* “you” (sg) may be from the same source, *tu* “man”. In other words there are multiple layers of prefixes, some fossilised, others lost.

Poebel ps. 14 – 15 describes loss of short vowels when unaccented in suffixes, prefixes and within the word. There are also many noun and consonant roots with “einem flüchtigen Endvokal” (Poebel p. 32). He is not sure if these “shadow vowels” belong to the root or not. Clearly they are due to loss under weak accentuation. They may have been heard as voiceless vowels. Our view is that they were once morphological suffixes. We do not believe in morphologically unmotivated phonological intrusions. Eg prothetic vowels are old prefixes.

Niger-Congo does not evince the Sumerian reductions to V however in full words (with very rare exceptions) : Vagala (Gur), however, has monosyllabic verbs consisting of a vowel only. The typical Niger-Congo root is CV(CV).

Sumerian has *e* “say”, Bini (Kwa) *we* “say”, but PWS *–guè-* “voice”, Ewe *gbè,* Yoruba *i-gbe,* Gbari *e-gwe, e-gbe* “mouth”. (Mekibo and Likpe *ke* “to speak” < PWS *ka*). This incidentally argues for Sumerian loss of the semivowel *w.* Ancient Greek (also with known *w*-loss) has *ē* “said”. The Congolese word for “yes”, Bangi, Poto, Ngombe *e* may be related however. Kongo has *elo,* Swahili *aee.* Here too there may be lost suffixes : Fula *wi, wi’i, wi’-(b)* ; Moore *wiləm* “speak foreign language” (*ləm* “tongue”); Isoko *vue* “tell to”, Ogoni (Eleme) *wii* “call”. Niger-Congo often reduces prefixes to a vowel however. Agni has *gu..ere* “speech”.

Since we take the labiovelars from old prefixes however, PWS *–guè* "voice" (Westermann prints a hyphen before it indicating potential prefixation) is itself resolvable into *gu* + *è*. And PWS *ká, kán* "say" must be original (from "hand"). PWN has *–GWAM* "speak", but *KAN-* "deny" (without prefix). The *G must have arisen through prenasalisation (prefixation). The *W is originally a prefix vowel. We are left with *A < *KA. The *M is a suffix. We are simply peeling layers off an onion. Greek *ē* "said" (Plato) has been stripped to the core.

In conclusion we recognise that the Sumerian word has been greatly diminished from its Niger-Congo antecedents. But it trails clouds of its former days of glory, when it boasted prefixes and suffixes, and in some cases, also infixes. It was once an entity of greater substance, a much more complex organism.

Sound Correspondences

Tables of sound correspondences follow. These demonstrate that regular correspondences exist between Sumerian and Niger-Congo, also that different grades exist for both vowels and consonants.

Due to the writing system of Sumerian and other problems we recognise that important features may be missing from our account. The statistics are simply raw data. Less frequent patterns are regarded as incipient grades etc. We have based the work on a limited vowel and consonant set. An *o*-vowel almost certainly existed, but it is difficult to prove this. A development *ua* > *o* is also possible, but hard to prove, as *o* would have been written with *u*-graphs. We may also have to do with cases of *a* > *o* (written as *u*). Often PWS *ua* has an *a* that is optional. Labiovelars are lacking, but may be hiding in *ĝ*. "Voiced" plosives may conceal fricative grades. The problem of separating original **d* and **l* (> fricative *d*) has not been fully solved.

The statistics given below are based on Part II of this book, **Sumerian: Comparative Dictionary**, which is separately bound and gives comprehensive comparative material from Niger-Congo, also from other African (and non-African) languages. Total precision is not possible however in taking such language statistics. There are problems in defining the word, problems in determining which root various words belong to, uncertainties due to consonant loss and the like. Not to mention the vagaries of Sumerian spelling, *g* = *k* etc. The figures therefore are only an indication.

Vowel Correspondences

****A**

*A=a [135] *A=e [9] *A=o [?] *A=# [10]

****E**

*E=e [7]

****I**

*I=i [114] *I=e [9] *I=# [6]

****O**

O = o (*U = u)

This vowel is not written in Sumerian. Its existence is debated. Some possible evidence has been found for Sumerian *o* however. See the Comparative Dictionary.

****U**

*U=u [144] *U=# [2]

The very high frequency of *u* in Sumerian suggests that it includes examples of another sound, presumably *o*.

****IA**

*IA=e [5]

****UA**

Impossible to detect this combination reliably in Sumerian. In theory it might give *o* (written *u* in Sumerian). But one suspects *a* is a possibility.

Consonant Correspondences

"Voiced"	"Voiceless"	Pre-Nasalised	Zero
LABIALS			
*B=b [37]	*B=p [7]	*B=m [6]	*B=# [14]
*P=b [2]	*P=p [1]		*P=# [2]
DENTALS			
*D=d [35]	*D=t [0]	*D=n [0]	*D=# [14]
*D=z [6]	*D=š [3]		
*D=r [3]	*D=l [3]		
*T=d [16]	*T=t [26]	*T=n [3]	*T=# [6]
*T=z [8]	*T=š [26]		
	*T=s [10] ?		
VELARS			
*G=g [19]	*G=k [2]	*G=ĝ [9]	*G=# [4]
	*G=h [1]	*Gw=m [1]	*Gw=# [2]
*K=g [26]	*K=k [40]	*K=ĝ [5]	*K=# [30]
	*K=h [17]	*K=n [2]	
	*K=s [14]		
	*K=š [1]		

LABIOVELARS		PALATALS		
*GW=# [10]		*J=h [3]	*J=# [2]	
*GHW=#	[1]			Others (sibilants)
*KW=#	[3]	*C=h	*C=# [1]	
*KHW=#	[1]			

There is some variation between GHW and GHWY, and between KHW and KHWY.

LIQUIDS			
*L=l [26]	*L=r [22]	*L=d [4]	*L=# [0]
*R=r [22]	*R=l [0]	*R=d [0]	*R=# [0]
NASALS			
*M=m [34]		*M=n [2] ?	*M=# [8]
*N=n [56]		*N=m [2]	*Ny=# [13]

VOCABULARY

"Le nom sumérien ne présente ni alternance vocalique ni infixation ; il s'agit donc de mots immuables – que d'aucuns n'ont pas hésité à qualifier d'*entités* – dont l'articulation grammaticale est nécessairement extérieure placée soit avant le nom (préfixe), soit après (suffixe). La plupart des noms sumériens sont monosyllabiques mais on rencontre également des noms composés et des noms dérivés".

BORD (2003)

Bord's description of the Sumerian noun applies equally to the Sumerian verb and adjective.

Harry Johnston (1922 : 496) discerns an original 'oneness' between Bantu "class prefixes, demonstratives, pronouns, forms of the verb 'to be', prepositions, and the particles used in conjugating the verb". The reason for this, is, as we have said, that the ultimate source of primary roots is the concrete noun, usually nouns indicating body parts.

Typically the elements of the Sumerian sentence can be broken down into monosyllables. Bord (2003: 23) gives examples of the numerous homophonous monosyllables characteristic of Sumerian. The usual pattern is CV, with variant CV(C).

gu "cotton"	I	*du* "go"
gú "river bank", "land"	II	*dù* "work"
gù "noise", "sound"	III	du_6 "cavern"
gu_4 "warrior" (= gud_2)	IV	du_{11} "speak"
etc.		etc.

We can add, with a final consonant after *du* :

dub "clay tablet, list"
dub "to pour, heap up, erect, shake"
dúb "to strike with the foot, turn over,
throw to the ground, tremble, make to tremble, to hammer".

Immutability applies also to compound and derived words, which can usually be divided. The elementary monosyllables are grammatically immutable, without Ablaut or infixation. From a comparative perspective however we will see that this concept of Sumerian is highly misleading. If we derive Sumerian from Niger-Congo it becomes clear that the situation was not always so. We can detect some old infixes, for example in *di-**n**-gi-r*. The *–r* is a suffix.

Further no formal difference existed between verb and noun. Both types of word are multifunctional, and largely interchangeable, with a few well known exceptions. Thus *zú* "tooth" is always a noun, whereas *du* "go" is always a verb. And as Bord says (2003 : 37), the adjective does not differ in essence from the noun or the verb. The dividing line between adjective and verb is fluid, and some adjectives can be used as verbs. Again one is reminded of Maori and the Polynesian languages, with their labile parts of speech.

I see the explanation of this fluidity in the nominal origin of all the parts of speech in Sumerian, which goes back to a remote period of Niger-Congo-Nilo-Saharan languages. The ergative case is a survivor from this noun-centred period of language.

Monosyllables consisting of a single vowel seem to abound. In most languages such vocalic monosyllables are grammatical elements, particles, exclamations etc, without precise meaning. But in Sumerian many full words, nouns and verbs etc, were expressed by a single vowel.

For example the word *u* (*ud*) means "sun, light, day weather, storm, (when, since, if, after)", also however *u* means "plant, vegetable, grass, food, bread, pasture, load, nourish, strong, sleep, to bend over, male bird, totality, to mount, ride, steer, huge" and so on. Both *u* "male bird" and *u* "to mount" may be from Niger-Congo *ku* "bird", also "male, mount" (*kuni* "man"), with loss of initial *k*. The monosyllable *e* (with amissable final consonant) means "ditch", "speak", "make"; *é* means "house, temple, goods"; *è* means "set out, appear"; e_4 means "water", e_{11} means "descend, set out, go up, put etc". The different transcriptions of *e* are thought to sound the same: the notation simply refers to different signs used to write them.

This situation is clearly anomalous. The meaning of a language is signalled mainly by its consonants. One need only mention the Egyptian and Semitic consonantaries, which do not show the vowels, yet serve efficiently to write these languages. A script which showed only the vowels, however, would be useless as a means of communication. For it is the consonants which carry most of the meaning. Likewise a language which used vowels only would be highly restricted, and, as far as I know, no such human language exists. Sumerian is aberrant in this respect. Perhaps that is the reason why it died out. Phonetic erosion had gone too far, and had produced a surfeit of monosyllabic, vocalic synonyms.

Diakonoff rightly draws attention to the need for a means of disambiguation. He sees the need for pitch distinctions to clarify the lexicon. Often we can find these in reconstructed Niger-

Congo cognates. But Sumerian may have developed additional pitch accents over and above the high and low accents posited for Proto-Niger-Congo.

The written language however had different signs for homophonous words. It was less ambiguous. Perhaps that is why the written language survived after Sumerian was no longer spoken, just as written Latin survived for centuries after it had ceased to be spoken.

Unfortunately the convention of transcribing some Sumerian signs with accent marks over the vowel is highly inappropriate if one is going to attempt to assign Niger-Congo pitch accents to Sumerian words. The convention needs to be changed, as it is very confusing.

One of the first things to impress me about Sumerian was the large number of doublets, alternative words with the same or similar meaning; *munus, mi, mu$_{10}$, sal, šal* "woman", for example. These were frequently alternative phonetic developments of the same root. Compare *enim* "speech, order, oath, agreement", which also takes the forms : *e-ne-èm, inim,* as if different dialects were involved. Or take the example *enmen* "thirst", with alternative forms *emma, emmen, imma, immen, immin.* How can one speak of "regular sound changes without exceptions" in the face of such phenomena ? If indeed one can identify the root from which this word once came ? Not to mention cases such as *amagi$_2$, amagi$_{3,}$ mabi$_2$* "ice".

This is akin to the behaviour of the Maori doublets, but is even more acute. Eg *mana* "compagnon", but also *man, men$_3$, mìn, mìna$_2$.* Compare *šim* "aromatic herb", also *šem.* Alternation of *e/i* is common. Consider also examples such as *har* "small", also *ar* (consonant loss). There is a notable lack of minimal pairs. Phonetic variation often exists within the word, but is not significant. Did the roots have both unstable vowels and unstable consonants ? Should we set up *mVn ? Or *mVn(C) ? Or for *amagi$_3$* etc *(V)ma(C)i ? Or for *har* should we posit *(C)ar ? Was this language losing its phonological structure ? And were foreign speakers the cause ? The scenario is made worse by vowel harmony, which levels vocalic differences. And is further complicated by fluctuations in the vowel system, particularly on the front axis.

Imagine the problems of attempting a word-count on such a language, especially if the aim is to compare other languages. Bord's Dictionnaire has many cases where numerous meanings are given for a "word". But do these meanings belong to the same word ? Take *dirig* for example. Bord's Dictionnaire gives 14 different meanings which include nouns, adjectives and verbs. One feels that the Sumerian language is like quicksand.

The original "nouns" which we see behind Sumerian, however, were not the nouns that we recognise today. Today we define the noun by contrast with the verb. The "primal" noun, if we may call it such, knew no such contrast. The ARM was used alike for a limb of the body and for ACTIONS OF THE ARM. The HEAD was used alike for the physical organ, and for ACTIONS OF THE HEAD, eating and drinking, for example, even for the water that was drunk. Each primal noun was a cluster of associations, some more concrete and separable than others. But a concrete noun, we think, was at the core. Something similar happens in child language : ("moon" = "streetlight" = "baloon"). And concepts were not discrete units. They overlapped and flowed into each other. The MOUTH was part of the HEAD. The SKY was the HEAD of the world, from which the RAIN fell. Even the distinction between ARM and LEG is blurred.

Thus if we take the Niger-Congo root PWS *li, lu* "head " (also *di, du* "head"), this forms Niger-Congo *di, d.i* "to eat", *dum, (dumu)* "to bite" (with *d.u* "to bite"). In Sumerian we have *di* "verdict, sentence" also du_{11} "to speak" etc. The Sumerian word *eme* "tongue" (part of the head) also comes from this root, PWS *lima* "tongue", Efik *e-deme* "tongue", Biafida *wu-dema* "tongue", with a suffix *–ma.* Sumerian *me* "divine decree, destiny, to speak" may even be from the same source. Which reraises the question of the origin of Sumerian *mu* "word, to speak" etc. In Bantu however the accentuation is on the initial stem syllable, *dími,* "tongue", PWN *LÍMA, LÍAMI* "tongue". Sumerian *dumu* "son, daughter" is from the same root PWS *du* "head", with a different suffix, probably meaning "my". Sumerian *idim* "source, subterranean water" also has the same origin, again with an *m* suffix, but with *i* prefixed. Sumerian *im* "clouds, rain" come from the sky, the head of the world, but with loss of initial *d*. Related to "head" is "spirit", PWN *DIM*. Does *diĝir* "god" really mean "head of sky" or rather "spirit of sky" (*di* = "be", "being").

One is reminded of Latin *diēs, dius, divus* and also of Greek *dios, dia* etc. "Day", "rain", "god", "shining sky" are all interrelated. So an African origin is demonstrated not only for Sumerian but for the Indo-European languages. The problems involved in defining and etymologising the word are evident here. Stapleton (1903) was right in saying Niger-Congo words are formed from a very small number of roots. But how many ? Let us take some examples.

I attribute the loss of initial *d* on Sumerian *eme* to the influence of a lost prefix, probably a nasal which weakened the consonant (possibly to retroflex). Niger-Congo languages attest not only initial *l* in the root of this word, but also *d,* retroflex *d., r,* and *n*. Compare Ewe *a-dé* "tongue", but also Mande *ne.–nde* "end of tongue" (Delafosse). Most Niger-Congo languages

have a prefix on this word. The Sumerian word therefore once had not only a prefix but also a suffix, of which a remnant survives: *-me*. Our reconstruction of this prefix is an extreme application of Template Theory. The phonology involved is reminiscent of Fula (Atlantic) consonant mutation and of sandhi phenomena. Without prefix we have PWS *li, (di)* "eat". But eating is living, whence *li, (di)* "live, be".

An abstract verb has thus developed from "head", "eat". The source of all this is seen in Mangbetu *ri* "animal" (creature which has a head and eats). The same root weakens to a preposed demonstrative (Bantu), then a postposed Indefinite (Mande). In Sumerian, as *ir,* it becomes part of a composite verb : *zi...ir* "to be troubled". Here *ir* is a reduction of *li, ri, di* "to be". Compare *–al* "article" from *–la.*

The Sumerian Determinatives used before certain classes of noun resemble the Niger-Congo prefix-classifiers preposed to nouns. Thus Determinative ^{d} is put before divine names (Sumerian *diĝir* "god", *ĝir* < PWS *gi* "sky" + *-r* "suffix"), and may be a reduction of Niger-Congo Prefix 5. An old demonstrative *di-* or *–di* occurs in some Niger-Congo and Nilo-Saharan languages (also in Meroitic). But this too must be from *di* "head". The classifiers were once full nouns. We have interpreted *diĝir* (*di-n-gi-r*) therefore as root + (nasal) + root (genitive) + suffix.

We have seen that *l, r, d* alternate in Niger-Congo. "Head" is *lu, li, ru, ri, du, di.* Various animals words are formed also from "head". So in all probability Sumerian *a-lu* "adj. for small cattle" and *a-lum* "adj. for "sheep" may be compared with *Amar-utu* "bull of the sun", and with Yoruba *màlúù* "ox". Our argument is that (in Niger-Congo terms) the *A-* of *Amar-utu* is a "Preprefix" (weak reduplication of the prefix), *-ma-* is a prefix, *-ru-* (which has a high pitch accent in Yoruba) is the PWS root meaning "head", "cow". We assume elision of *u* : *Amar-utu* > **Amar(u)-utu*. Compare Linear A *MARU* "flock of fleece" ? (= Greek *mallos* "fleece", used both of fleeces and cattle pelts). The word *malu loses its initial consonant, giving *alu(m).* Possibly this consonant is replaced by adding it at the end.

The Sumerian word for "sun" *utu* is connected with PWS *tùà* "to bake", PWN *TUK* "to boil, be hot", Bantu *tu,mb* "to bake" (Meinhof's *tûmba*), also perhaps PWN *THÚN* "ashes" (hot). The last of these has a high accent on the root vowel *Ú.* The initial *u-* of *utu* is possibly a vocalic noun prefix, probably from *gwu (personal sg.), the sun being regarded as a person. Johnston (1922) gives Kongo *-tuba** "sun" (without prefix). Alternatively we may interpret *utu* as from **(t)utu* (reduplicated). This is more likely, as *ud-sakar*$_3$ "moon" suggests. A stress accent must fall on *ud-*, causing loss of the vowel of the second syllable : *u'-t(u).*

The usual Sumerian word for "kill" is *gaz.* This must be from PWS *ká* "cut" (cf *ka* "hand"), Bantu *kat, kant* "cut", Swahili *kata* "cut" (PWS *ta* "hand", "castrate"), but Songhai (Nilo-Saharan) *ka-ti* "to wound". This identification supports Sumerian *z* = *ts* (affricated *t*). Perhaps an original *kati is more likely than *kata as the source of Sumerian *gaz.* (Khoisan however has : Hatsa *//ka:ata,* !O! Kung *//ka?a* "cut, chop"). The *–ti* would mean "middle". PWN has *KHANT* "cut" (off). The PWN *KH* is lenis (from original *k*). The lenis sounds were a secondary development.

Bantu *kut* means "rub off", PWS *kuìà* means "to cut", PWS *kù* "to dig". One suspects that *ku also once meant "cut" (< *ku* "hand"), or something similar in Niger-Congo-Nilo-Saharan. Mande (Delafosse) has *ka, kuntu* "cut". No doubt "kill" came from "cut". PWS *kù* means "kill" and (as expected) *gua* means "hand, arm". Sumerian *kud* means "cut" [*d* = *t*].

NOTE : The Indo-European word, English *cut* (trans. & intrans) is "of unknown origin", but the early attestations, together with Swedish dialect *kuta, kata, kvota,* favour a Niger-Congo source! Some Gur languages have a *b* [> *v*] in this word.

Sumerian *šu* "hand" could be from *ku *"hand", but phonetically one would expect *su.* PWS *tú, tí* "take" is also a possible candidate, as *šu...ti* in Sumerian means "to take, receive" (PWS *ti* "middle, in"). Sumerian *šu...ta* means "from" (PWS *ta* "to go" may be relevant). Again one suspects an earlier *tu "hand", giving "actions of hand " (build, heap up etc). Nyangbo, Avatime *tu-ku* "to carry" has both *tu* and *ku* (serial verbs). Johnston (1922: 317) lists *ku* and *kunja* as meaning "hand" in the Cameroons. (211, 210). I consider that *nú* is a nasal grade of *tu "hand". Compare PWS *ta* "hand", *ta* "take" with *tù* "build", *tum* "to work" (actions of hand). In a very early stage of Niger-Congo the vowel of the root seems to have been indifferent. PWS *tú, tí* "take", Mande *tekè, tikè* "hand". But we will not go back that far.

Sumerian *ur* means "dog", also "man, warrior". For "dog" we can compare PWS *kuri, kuli* "belly", used in TogoR (*o-kulí*) for "mouse", in Chad for "type of cattle", ie quadrupeds. New Zealand Maori uses *kuri* for "dog", and other quadrupeds. Compare English *cur.* Initial *k,* final *i,* have both been lost. Johnston (1922 : 282) gives *kuli* "dog" in several East African languages. Which suggests the Sumerians may have come to Sumeria via East Africa.

We regard *ur* "man" as having a different origin. PWS for "male, man" is *kuni.* But Yoruba has both *o-kuni* and *o-kūrī.* Lefana has *lo-kudi* "husband" (prefixed). Sumerian lost the prefix. This word is from PWS *kuì* "big", men being regarded as "big", women as "small", in Africa. African Gur (once prefixed by *n-*, *nk* > *g*) means "man". In Cretan Linear Script *–ku* > *-su*

(SU) is a “male” suffix. Ewe has *atsú, -tsú* “male”. This latter may be from *tu “man” however. Compare *Antu-sa* “men” [(B)antu] in Hittite. Surely these developments are evidence that at one time the *ku* and *tu* were stressed. In Ewe *tsú* has a high pitch accent however. As we have seen high pitch may go to stress. In any case originally distinct words have been confused due to phonetic change.

One is tempted here to compare also PWS *na, nak* “cow, bull”, Alagiang *nama* “cow” etc with Sumerian *na* “human being”. PWN has *NAM* “meat”, Bantu *(ny)ama* “meat”. Both *nyama* and *nama* are common words for “meat” in Congolese (Bantu) languages. To early cannibals beef and human flesh were much the same. PWS *ni, nu* “man” (different vocalism).

Early scholars attributed the phonetic reduction of West African languages to a putative pygmy substrate. Are we now to put this substrate also in Sumeria ? And what about Chinese which also reduced many words also to monosyllables ? Not to mention French.

We know that the aridification of the Sahara caused animals to become smaller. Did the same process affect the pygmies ? Did they leave the Sahara at a very early date ? Did they migrate widely ? Did their original unknown and unattested language leave its mark only in its substrate effect on the languages of Niger-Congo migrants who came later ?

In the present state of knowledge there is no evidence for this. Pygmy substrate is an insubstantial “deus ex machina”. The cause of these phonetic reductions, as far as it is known, was a strong stress on the root syllable. Surely the alleged “pygmy substrate” people did not have some mysterious mechanism for detecting the root of Niger-Congo languages. The cause of the change therefore lay in the Niger-Congo languages themselves.

A more plausible explanation is that Sumerian traders, negotiating with foreign speakers, exaggerated the stress on the root syllable of their words, to make their meaning easily understood. Thus they simplified their language to the essentials, and abolished its elaborate grammatical structure. This is a common procedure in forming a *lingua franca.* Compare the simplification that occurs also in pidgins.

CONCLUSION

Having considered the evidence we must recognise that Sumerian, far from being a language isolate, is related to the Niger-Congo language group. The crucial fact about Sumerian is that the typical Sumerian noun has been reduced to a monosyllable, without a functioning system of prefixes. In this respect Sumerian resembles Mande, which has also lost its prefixes on the noun. There are other resemblances to Mande also, such as the frequent ending *–r* (a Mande plural marker, developed from a demonstrative), and the dominant word order OV.

A characteristic peculiarity of Sumerian is the system of silent determinatives which were used (generally preposed) with many Sumerian nouns. These determinatives are evidence that Sumerian once had classifiers on the noun, a situation which we have hypothesised for a remote stage of Proto-Niger-Congo. Sumerian therefore, is not only the world's oldest recorded language, but provides us with fresh evidence for the structure of Niger-Congo in its earliest stages. These classifiers however were not sensitive to singular and plural, like the Niger-Congo prefixes, and cannot be systematically matched with the orthodox version of those prefixes. They are also much more numerous. So the question of their exact relationship to the later prefix system remains unclear. We think the Niger-Congo prefix pairs evolved from "male" (odd) and "female" (even).

The Sumerian noun is not only truncated at the beginning by the loss of the prefixes, but also at the end, by the loss of Niger-Congo suffixes. Some of these remain however, for example the postposed definite article *la* which goes back into Nilo-Saharan and has largely been lost in Bantu. In general less is known about the grammar of Nilo-Saharan. Sumerian provides us with detailed, concrete insights into the early vocabulary and grammar of Nilo-Saharan & Niger-Congo. It puts flesh on the bones of the protolanguage.

A further interesting fact is that the Sumerian verb appears to be later than the noun and to have developed out of it. One infers a previous stage which knew only nominal constructions. This provides us with an explanation of the fact that scholars have been relatively successful in reconstructing the Proto-Niger-Congo noun, but relatively unsuccessful in reconstructing a Proto-Niger-Congo verb. The diverse verbal developments postdated the protoperiod.

The argument that Sumerian is a Niger-Congo, African language, can be confirmed by looking at Sumerian placenames. For example the Mande (including Mandekan) language, not to mention Mandari (Nilo-Saharan), and Mandara (Afro-Asiatic) all have affinities with

the placename Mandali in Eastern Iraq. The Sumerian name Karun, recalling Karon (West Atlantic), Karondi (Kordofanian), Karo (Afro-Asiatic) has already been mentioned. The placename Samarra recalls Sama (Adamawa), also kiSama (Benue-Congo) and uSamba (Benue-Congo). As it is now reasonably clear that a definite line cannot be drawn between Niger-Congo and Nilo- Saharan the evidence of these placenames indicates that Sumeria was colonised by Africans, mainly speaking Niger–Congo and Nilo-Saharan languages. The name Basra has now become well known due to the Gulf War. But it must be related to Niger-Congo Basa, Bassa (Benue-Congo), to Bashar (Benue-Congo), even to Basari (West-Atlantic). Likewise Kabul must be related to Kabure (Gur), and to Kabu (Kwa). Placenames do not lie. They are the most enduring form of evidence for what happened in the remote past. They prove the presence of Niger-Congo-Nilo-Saharan languages in Sumeria.

It is not without interest that lexical connections occur between Sumerian and the Indo-European languages. Thus *šún* "star, planet, shine" recalls the English "sun". Sumerian *e* "speak" recalls A. Greek *ē* "spoke", Sumerian *na* "don't" resembles Latin *nē* "lest, don't". Even *kud* recalls English "cut". The matter needs further investigation, as Wanger realised.

Affinities with Afro-Asiatic (and even Khoisan) exist, but are few and generally marginal. We may be looking mainly at old panafrican words here.

To return to where we began, links with Minoan Linear A also exist. Thus *ia* "five", also *i-* reminds us of Minoan *I* "hand, five". Brice identified the headings *SARA, KAPA* in Linear A. These refer to groups of people. But Sumerian *sar* means "garden", Sumerian *kapar* means "shepherd". Linear A also has *ADU* as a heading, Sumerian *a-tùr* "stable" (*t = d*) ? Sumerian may be telling us that "gardiners, shepherds, stablehands" were listed on the Cretan tablets. But it is far from certain. More research into these matters is now needed.

It must be emphasised nevertheless that Linear A is not Sumerian. The Sumerian tablets use "cases" or compartments, but Linear A doesn't. The words are not identical. And Linear A has the semivowels *w* and *y* (*W & J*) which have been lost in Sumerian. Sumerian keeps final *–r* which is apparently lost in Linear A. Both Linear A and Sumerian derive from Niger-Congo however. This fact is important. Linear A is near Kwa. Sumerian is closer to Mande, however, which some do not even classify as Niger-Congo. The differences, as well as the similarities should be recognised. For both languages the context is widened.

Finally the fact that women spoke a separate dialect of Sumerian is important. A similar situation prevailed in parts of Africa. Marriage by abduction was once widespread. The wives spoke a different language or dialect from their husbands, and taught this, with greater or lesser success to their children. The result was continuous, systematic language mixture. This must have implications for the tree theory model of language comparison. Can one really speak of loan-words in this situation ? Yet presumably the language of the males was dominant.

See M. LEENHARDT, (1946), Langues et dialectes de l' Austro-Mélanésie, Paris, for a discussion of the effects of mobile female speakers on native languages.

"Une guerre indigène n'est qu'

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SUMERIAN: COMPARATIVE GRAMMAR

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ABOUT THE AUTHOR

Graham Campbell-Dunn was awarded his MA in Classics with First Class Honours by the University of New Zealand and went to Cambridge on a Postgraduate Scholarship, where he studied under the comparativists W. S. Allen and R. G. Coleman. His eminent teachers also included John Chadwick who worked on the Linear B decipherment and the linguist John Lyons, a former student of Noam Chomsky.

After lecturing at the NZ universities Graham retired in 1991 to devote his time to research into the African origins of the classical and related languages. His interest in Italian theories of Mediterranean substrate lead him to study the work of the Niger-Congo comparative scholars D. Westermann and H. Mukarovsky. His researches have cast new light on Minoan Linear A, Etruscan, Basque, Indo-European and now Sumerian. Graham is the founder of Template Theory, a radical new hypothesis concerning syllabic structure and sound relacement in early African languages.

This book applies the comparative method to prove that Sumerian is not a language isolate. It is related in its vocabulary, grammar and phonology to the Niger-Congo group of languages. The relationship is particularly close for languages of the Mande group, with which it shares OV word order and erosion of the original Niger-Congo noun prefixes. Niger-Congo suffixes can also be identified, such as the postposed article in *–la, -a, -al* and the old Niger-Congo definite in *–ri, -di.*

SUMERIAN	NIGER-CONGO	MEANING
ni, nitah **"man"**	***ni***	**"man"**
eme **"tongue"**	***(d)eme***	**"tongue"**
lu **"male"**	***lu***	**"head", "chief"**
ĝin **"to go"**	***gi***	**"go"**
ki **"earth"**	***cí***	**"earth"**
aba **"who ?"**	***(a)-ba***	**"someone"**
bi **"speak"**	***bil***	**"tell"**
pa **"wing"**	***papa***	**"wing"**
da **"side"**	***tá***	**"thigh"**
tir **"forest"**	***ti***	**"tree"**
kár **"encircle"**	***ka***	**"ring"**
me$_6$ **"to make"**	***ma***	**"to make"**
mu **"to burn"**	***mudi***	**"torch, bright"**
hul **"destroy"**	***kú, kúá***	**"kill"**
a-rà **"road'**	***njila***	**"road"**
ĝír **"sword",** ***si*** **"horn"**	***kin*** **"needle",** ***cín***	**"horn"**
zú **"tooth"**	***dum***	**"to bite"**

The Sumerian silent determinatives (really classifiers), about 55 of which are used with certain nouns, have all now been assigned Niger-Congo etymologies. Thus *uru, iri* "det. with towns" is Niger-Congo *lu, li, (ru, ri)* "head" (compare E. "capital"), with a Niger-Congo vocalic prefix before the root. Likewise *ki* "det. with places" is Niger-Congo *gi,, ki, kyi, ci* "village, settlement". Even *sik, siki* "det. for wool etc" is a Niger-Congo word for "hair, fur" applied to wool. The clarification of this large grammatical system clinches the argument, and sheds new light on the early structure of Niger-Congo languages.

SUMERIAN
COMPARATIVE DICTIONARY

In the Dictionary which follows we set up Niger-Congo etymologies for Sumerian. The dictionary is root based, like the work of Westermann and Mukarovsky that inspired it. Where we cite PWS or PWN monosyllables however, we are assuming that at a remote date there was an African language with free word order, made up of CV monosyllables. The –C which optionally follows these tends to vary. In other words it does not belong to the original CV root. The Sumerian monosyllable, on the other hand, has been reduced from a polysyllable to a monosyllable. The ultimate historical process is : *CV > *CVCVCV > CV(C). The last of these is Sumerian.

Under each entry we give sound correspondences in bold. These go from Proto-Niger-Congo reconstructions (asterisked capitals) to Sumerian (lower case). Correspondences are not given for all the individual languages.

NIGER-CONGO & NILO-SAHARAN

AGENT, ERGATIVE **Sumerian** *e* “do, make”
PWS *kia* (> *ke*) “make” (action of hand) **Sumerian** a_3 “make”
PWN *KA, (KYA)* “hand”
Bantu *kít* “do”, *gid* “act”
Bantu *gi* “go”, *(k)a* “go”
Bantu *ka* “hand”
Mande *kè* “to make”
PWS *ka* “hand”
Bantu *ka* “hand”
Mangbetu *âki* “to cause”

***K = #** ***IA = e** ***K = #** ***A = a**

ALL **Sumerian** du_3*-a-bi* “all”
PWS *du* “head” **Sumerian** *dù* “totality”
PWS *bi* “child” (bear), Tschi *o-bí* “somebody, a person”, Yoruba *bibi* “generation”
PWN *BI (BII)* “seed”
Soko *pe* “all”, Swahili *mbeyu* “seed”
“Bantu” (Johnston) *ōbe* “all” *b-ehe* “all”, *pia, bia, pie* “all” (Nos. 13, 21, 21f, 48, 200).
Prefix *mbe-* may precede or suffix *–pi* may follow.
PWN *DUG* “tribe”
Mangbetu *âdu* “abound” N-S, and *dru* “head”
PCS **d.u* “head”
ES Midob *tuma* “all”
CN Kuname *tumma* “all”

***B = b** ***I = i** ***D = d** ***U = u**

ANCESTOR **Sumerian** *KU-KU* “ancestors”
PWS *ku, kul* “old”, Guang *kuku* “old”
PWN *KÚ, KÚKU* “ancestor”, *KÚL* “be old”
Bantu *kuka* “ancestor”
“Holoholo” *kulú* “old”
Mande *koro,* M *koto* “old”, *koro-koro* “very old”
Mangbetu *kuku* “family”
PCS *ku* “old”

*** K = k** ***U = u** ***K = k** ***U = u**

AND **Sumerian** *bi-da* “and”
PWS *la, da* “make” ?, PWS *bí(tíá)* “ask” [*d = t*] ?
T, Ai, Af *bisa* “ask”, Z *biza* “ask”.
PWS *tá* “speak”, *ta* “hand” (“speak” often for “and”)
PWN *BIL* “speak, tell”.
Mande *dāri, dāli* “ask”
Mande *nyini-n.ka* “ask”, Mande *fò, fwò, kó* “speak”.
Lilo, Poto, Soko, Kele *la* “and”
Ngombe *bala* “speak”
Bangi *mpe* “and” (= *bi* “ask”)
Bantu *búud* “talk, say, tell”,
Bantu *na* “and” (from **nda*)
“Holoholo” *bilil’* “to demand by public announcement”
“Holoholo” *bilikil’* “to call”
Mangbetu *ôbi* “to discuss”

***T = d** ***A = a** ***B = b** ***I = i**

AND **Sumerian** *in-ga* “and”
PWS *ka* “and, that” (lit. “speak”)
Mande *ni, ani, ane, ka* (conj) “and”
Soko *beka* “speak”
Johnston (1922 : 483) “*na* in a few Bantu languages (2g, 6, 6a, 44b, 61, 104, 193) is *ne* or *ni*”.
Mangbetu *kaba* “interjection”
Mangbetu *âga* “listen”
Mangbetu *oga* “understand, hear”
PCS **ga* “hear” (cf “listen up”)
ES Didinga *kalkic* “armpit”

[Words for “and” often come from “speak”, which itself may be from “hand”]

***K = g** ***A = a** ***N = n** ***I = #**

AND **Sumerian** *ù* “and”
Sumerian u_3 “since, ago etc”
Spanish Guinea-West Cameroons *ku* “hand”, (but also Cameroons-Cross River *pu* “hand” could give *u* by initial consonant loss).
Sumerian has a word *šu* “hand”, probably from **ku*.
TogoR *kúe “and, with”. “Hand” used for “and” and “not” (past).
Mangbetu *ku* “as”
Mangbetu *u* “there”, *dru, idru* “there, now, well then” (from “head”)

ES Nandi *kulkul* “armpit”
CN Kunama *ukunkula* “armpit”

***K = #** ***U = u** ***D = #** ***U = u**

ANIMAL
PWS *na, nak* “cow, bull”, Alagiang *nama* “cow”
PWN *JAM, NAM* “animal”
Bantu *(ny)ama* “animal, meat”
Lolo, Ngala, Poto, Soko, Kele, Swahili *nyama* “animal”
“Holoholo” *nyama* “animal, flesh”
Mande M *ku-nyã* “animal”
PCS **ja* “meat, animal”
ES Barea *no* “meat”
CN Kunama *nya* “meat”

Sumerian *am* “wild ox”, “bull”
Sumerian *am-si* “elephant”
Sumerian *am-gud* “wild bovid”

***N = #** ***A = a** ***M = m** ***A = #**

ANIMAL, DEAD
PNC **ba* “sheep”
Bantu *ba, pa* “sheep”
Bantu *gú,* “sheep” (Meeussen)
PWS *kú* “to kill”, Barba *gú* “to kill”
PWS *gù* “to kill”
Tschi, Avatime, Mekibo etc *wu* “to die”
ES Bari *tuan,* Masai *tua* “die”
CN Kunama *tu* “to die”, Berta *tu* “cow”

[*z =d = t = s*]

Sumerian *ba-ug$_7$* “dead animal”
Sumerian *ba-ug$_6$* “slaughtered animal”
Sumerian *uzu* “flesh”
Sumerian *uz* “goose, duck” (*us*)

Sumerian *ùz* “goat” (*ud$_5$, ud$_x$, ut$_5$)*

***B = b** ***A = a** ***K = #** ***U = u**

ANUS
PWS *(m)bi, (m)bin* “excrement”, Dagomba *bin-di,* Mossi *bin-du* “Kot”
PWN *BÍN* “excrements”
Bantu *bí, i,* “excrement”
Mande M *bu* “excrement”

Sumerian *bi$_7$, bid* “anus”

***B = b** ***I = i** ***D = d**

ARM
PWS *ka, bua (ba)* “arm”
PWN *BUAK, GWAL, KA (KYA), KWÁN* “arm”
Bantu *gado* “arm”, *bóko* “arm”
“Holoholo” *bokó* “arm”, *kal’* “to cut”
Mande *bolo, bolo-kala, kãmba-kala* “arm”
ES Didinga *kalkic* “armpit”, *kom* “be strong”

Sumerian *a$_2$* “arm, strength”
Sumerian *kalag* “strong”
C-loss [*k* > *h* or *b* > *v*]

***K = #** ***A = a** ***B = #** ***A = a**
[BU = β]

ARROW **Sumerian** *ti* “arrow”
PWS *ti* “tree”
PWN *TÍ* “tree”
Bantu *tí* “tree”
“Holoholo” *tĭ* “tree”
Mangbetu *titi* “young tree”
Afro-Asiatic: Cushitic :Kamir (C) *sil* “knife” (under “arrow” in Greenberg)

***T = t** ***I = i**

ASSEMBLE **Sumerian** *ur*$_4$ “to assemble”
PWS *bu* “hut”
PWN *BUL* “be abundant” (*BUL* “to speak”)
Bantu *bú,d* “be abundant”
“Holoholo” *bi,l* “to be numerous”
“Holoholo” *bundĭ* “village”
Mangbetu *bula* “assembly”
ES Dongola, Kenuzi, Mahas, Gulfan *ur* “head” (speak)

***B = #** ***U = u**

AXE **Sumerian** *bar* “to split” (axe)
PWS *bà* “two” (*búá ,(ba)* “hand, arm”) **Sumerian** *bal* “axe, hatchet”
Kongo *pasa* “to split”
Bantu *band, pac* “to split”
B & Semi-B *pel’, pale* “knife” (120), *beri* “knife” (190), *balω* “knife” (5a)
Bola, Sarar *u-mban* “knife”
Bulanda *mban* “knife”
Mande *paka* “knife”
Mangbetu *mba* “knife”
PCS **mba* “cut, knife”

***B = b** ***A = a** ***L = l/r**

AXE **Sumerian** *urudu*$\underline{h}$*a-zi-(in)* “axe”
PWS *ka* “hand”
PWS *ká* “to cut”
PWN *TIN, (TEN), TING* “to cut”
Bantu *tín* “to cut”
Lolo etc *tena* “to cut”
Mande *tike* “to cut” (+ variants)
Kordofanian : Tumtum, Karondi *ati* “to cut”
Mangbetu *kaka* “fragment of broken vase”
Mangbetu *kaki* “a break”
Khoisan : Hatsa *//ka:ata* “to cut”, !O! Kung *//ka?a* “to cut, chop”
PCS **ga* “to cut”
PCS **si, *sil* “to cut” ?
NS Saharan : Zaghawa *timme* “to cut off”
ES Njalgulgule *time* “cut” (imper)
CS : Madi *kari* “blood”

S. *<u>h</u>a* resembles Linear A sign *A* (double axe).

***K = <u>h</u>** ***A = a** ***T = z** ***I = i**

AXE **Sumerian** *ǵišsilig* “axe”
Bola *pu-tebi,* Sarar *pu-tewe* “axe” etc
PWN *TIN* “to cut”
Bantu *tin* “to cut”
Mande *tige, tike* “to cut”
PCS **si, *sil* “cut”
Afro-Asiatic : Cushitic : Kamir (C) *sil* “knife”; Chad : Gulfei (2) *si:l* “to stab” (Greenberg)

***T = s** ***I = i** ***G = g**

BARK (of a tree) **Sumerian** *bar* “bark”
PWS *pal, p<u>e</u>l, (pat)* “thin, flat”, *pel, pol, (fel-, fol-)* “light, thin”
Kongo *baula* “bark”
PWN *PUK, (PUAK)* “bark”
Bantu *pucú* “bark”
Mande *woro, wara* “bark”
Mangbetu *bo* “bark”
PCS **-ana* “skin”

***B = b** ***A = a** ***L = r**

BARLEY **Sumerian** *še* “barley”
PWS *tè* (+ Nasal) “to cut” (of harvesting), from *ta* “hand”
PWN *TEM* “cut down”
Bantu *teet* “cut”, *tand* “cut”
Mande *sā* “cut”
East Sudanic (Ehret 1993) *the:r “prepared grain”
Mangbetu *te* “hand” (right)
ES Dinka, Nuer, Nandi *tem* “cut”

***T = š** ***E = e**

BE **Sumerian** *me* “to be”
PWS *ba* “to be in a place” (nasal grade *mba* > *ma*) ? Gba *b<u>e</u>* “to be”
PWS *má, mán* “to be accustomed”, PWS *ma, man* “to finish”, “to remain over”
PWN *BA* “to be”
PWN *MANG (MAK)* “to be astonished”, PWN *MAL* “to be finished”
Kadei-Sanga-Lobai *yuma* “eat”, East Africa (Pygmies) *uma* “eat”
Mande *mā-kunu* “to devour”, Mande B *mā* “human being”
Bantu *mat* “to eat”
[words for “to be” are often related to words for “eat”, “hand”, PWS *búá*]
ES Nile Nubian, Didinga, Bari, Masai, Nuer, Dinka *a* “to be”
CS Mangbetu, Moru, Binga *a* “to be”
Mangbetu *me* “place”
Afro-Asiatic : Chad : Logone (3) *mba* “place”, Montol (1) *bi* “place”, Angas (1) *pe* “place” (Greenberg)

***B = m** ***A = e**

BE (suffix) **Sumerian** *–ir* "be" (after compound verbs)
PWS *li, (di)* "to be" (from *li, (di)* "to eat")
PWN *DI* "to be" (also "to eat")
Bantu *di* "to be"
Mande M *le* "be" (copula)

***D = #** ***I = i** ***D = r**

BELLY **Sumerian** *šag$_4$* "belly"
PWS *tiá* "middle of body", Gola *tē* "middle", Djula *tye* "middle" ?
PWS *là, (da)* "under, below"
Soko *nda* "belly"
Bantu *da* "belly, inside"
"Bantu" (Johnston) *sakasaka** "belly" (103), *seke** "belly" (28), *tsatsa** (175), *aka** (189), *sañgω* "belly" (155)
PCS **za* "meat, animal"
Afro-Asiatic : Chad : Hausa *sa* "bull", Kuri (2) *sa:* "cow" (Greenberg)
ES Barea *taua* "belly", Turkana, Lango *etau* "heart of animal"

*** D = š** ***A = a** ***K = g** ***A = #**

BIG **Sumerian** *gal* "big"
PWS *gán* "big", *ka* "king, chief, ancestor"
PWS *gà* "hundred"
PWN *GÀ, (GÀNA)* "hundred"
Bantu *gana* "hundred"
"Bantu" (Johnston) *kañgi* "great" (237)
Mande *gyã* "big"
PCS **kpa* "big"

***G = g** ***A = a** ***(L) = l**

BIG, HUGE **Sumerian** *u$_{18}$* "huge"
PWS *kuì* "big, much"
PWN *KÚ* "be old", *KÚL* "be old"
Bantu *kúd* "grow up"
Kongo *kula* "to grow", Ngala *ula* "to grow", Swahili *kua* "to grow"
Mangbetu *kwokwo* "big"
ES Nandi *kulkul* "armpit"
CN Kunama *unkunkula* "armpit"
PWS *bà* "big"
Bantu *vata* "flach sein" (flat)
PCS **bo* "big" (*bua* ?)
Afro-Asiatic : Chad : Higi (3) *bwa* "large", Musgu (7) *bba* "large"

***K = #** ***U = u** **or** ***B = #** ***U = u**

BIND **Sumerian** *bar* "to bind"

PWS *báli* “to bind”
PWN *BOP* “bind” ?
Bantu *bop* “bind”
Togo R **bále* “bind”
Mande *gyala* “bind” ?
Mangbetu *oba* “be attached”
PCS *b*a* “to tie”

***B = b** ***A = a** ***L = r**

BIRD **Sumerian** *mušen* “bird”
Nalu *ma-tk<u>o</u>* “hen”
Wolof *tiek* “hen”
Atjulo *tjaka* “hen”
“Bantu” (Johnston) *sen, siñ, sañ, señ, soñ* “bird” (230, 231), *siriri* “bird” (6a), *sere* “bird”, *sire* “bird” (274), *ciri* “bird” (64, 65, 65a, 67, 68).

***T = š** ***IA = e** ***N = n**

[The *mu* prefix also occurs on Sumerian *munus* “woman” ; *nu* “bird”]

BIRD **Sumerian** *<u>h</u>u* “bird”, (u_5 “cock”)
PNC **ku* “bird”, Igbo *o-ku* “parrot”, *kuku* “pigeon”
PWN *KUKI* “fowl”
Bantu *kumbi* “hawk”, *kucu* “parrot”, *kunda, kuti* “pigeon”
“Holoholo” *kokŏ* “hen”
Proto-Mande **kuni* “bird”
Songhai *k’úrò* “bird”

***K = <u>h</u>** ***U = u** ***K = #** ***U = u**

BITE **Sumerian** $zu_2...ku_5$ “bite”
PWS *lum (dum)* “to bite”, PWS *kuìà* “to cut”
PWN *KU* “to kill”
PWN *DÚM* “to bite”
PWN *THUBH* “to pierce”
Bantu *dúm* “to bite”
Swahili *uma* “to bite”
TogoR *lúma* “to bite”
PCS **junyu* “bite”

***D = z** ***U = u** ***K = k** ***U = u**

BLACK **Sumerian** $ĝi_6$, *ĝig* “night, black”
Sumerian gi_6, *gig* “night, black”

See under NIGHT. [The *ĝ* and *g* seem interchangeable here. Probably *nk > *ŋ/g.*]

BLACK **Sumerian** *zi* “black”
PWS *<u>g</u> ì* “black”, Grebo *yidi* “black”, Igbo *o-dži* “black”, Nki *dži* “black”

PWS *ti* “black”, VI Gan *tji* “black”
PWN *THITHUKA* “night”
Bantu *tik* “black”, *du* “black”
Poto *ndima* “darkness”, Ngombe *modidi* “blackness”
Ngombe *modidi* “smoke”
Mangbetu *biti, bôdi, tîti* “dark”
PCS **(ti)bi* “green” (dark)
PCS **Eri* “green, black”
CS Lendu *titi* “black’

***D = z** ***I = i**

BLOOD **Sumerian** *mud* “blood”
PWS *mìn* “to drink”, Temne *mun* “to drink”, Gio *mu* “to drink”
PWN *MÚN, MUNG* “to suck”
Bantu *boda* “red”
Swahili *damu* “blood”
Kilimanjaro (Caga) *samu, sau* “blood” (*mu* < *mku* “kill, cut”). See *şa* “red”.
Mande (Delafosse) *wule,* D *wure* “red”
Mangbetu *ombuo* “drink”
PCS **mbu* “drink” (drink blood)

***M = m** ***U = u** ***D = d**

BOAT **Sumerian** ma_2 “boat”
PWN *YAT* “boat”
Temne *mant* “water”
Landoma *mants* “water”
Mampa *man* “water”
Limba *mande* “water”
Gola *ma-mal* “water”
Bantu *(j)áto* “boat”, Ngala *bwatu,* Ngombe *bwatu,* Bangi *bwato,* Lolo *watu,* Poto *watu,* Soko, Kele *wato* “boat”
“Holoholo” *-ató* “boat”
Cameroons, ‘Fang’ *–ā* “canoe” (Johnston 1922: 267)
Bantu *ma-* “liquid prefix”
Kongo *maza* “water”, Bangi, Ngala, Poto *mai* “water”, Lolo *basi* “water”, Kele *balia* “water”, Swahili *maji* “water”
Mande (Delafosse) *bā* “muddy water”, also *bãg.a* “muddy water”
Mangbetu *kuma* “rain”

[*bw* > *m*; final *tu* has been lost due to the accent on the *a*] [probably *gw* > *y/bw*]
PWS *guà* “to break or strike” + PWS *tu* “water”?
***M = m** ***A = a**

BONE **Sumerian** gir_2 “bone”
PWS *kú, kúp, kúá* “bone”; also Lefana, Santrokofi, Akpafu *kpi* “die”, with *kubi “bone”
Likpe *di-kúbi* “bone” etc

East Sudanic : Kenuzi *ki: d* “bone”
PWN *KHWÚÀ* “bone” [*g = k*], [*r = d*], [*i = u*]
Mande *kolo*,D *kuru*,M *kulu* “bone”
Bantu *kú,pa* “bone”
“Holoholo” *kĭ,* “die, corpse”
Mangbetu *kwo* “bone”
PCS **kpa* “bone”
*** K = g** ***I = i** ***L = r**

BORN, GIVE BIRTH **Sumerian** *tud* “ be born, give birth”
PWS *tù* “to push”, Tschi *tua* “to be stuck”
PWN *TU* “to pound, throw” etc
Bantu *tuma* “to send”
PWN *TUIMB (TUMB)* “belly, abdomen”
Bantu *tumbo* “belly”
Upper Rufiji *kutu** “belly”, Angola *kutu* “belly”, Congo *kutu* “belly”
Central Bauci *tudi* “stomach”, Cameroons-Cross River *tū* “stomach”
Swahili *matumbo* “belly”
Bantu *tumbo* “belly”
Mangbetu *êtu* “to make push”
Mangbetu *su* “heart” (often = belly)
ES Nile Nubian, Old Nubian *tu* “belly”

***T = t** ***U = u** ***T = d**

BREAD **Sumerian** *ninda*
PWS “mouth + eat”, PWS *nwa* “to bite, eat”, (*ni, nia*) “mouth”, Efik *i-nua* “mouth”,
Akwa *i-nyo* “mouth”, Korop *i-nwa* “mouth”, Atjulo *ni* “mouth”, Issala *ní* “mouth”
PWS *lì, lìa* “to eat”, Efik *dia* “to eat”, *u-dia* “food”
PWS *ní, nín* “tooth”, Mossi *n’e-ende* “tooth”, Adele *de-n’ā* “tooth’
PWN *NÍANA, NÍUNA, (NÚA)* “mouth”, *DI* “eat”
PWN *NÍN, (NÍGHIN)* “tooth”
PWS *la, (da)* “mouth”
Bantu *nua* “mouth”, Bantu *jí,no* “tooth”
Kongo *nua* “mouth”, Kongo, Ngombe *dinu* “tooth”Bangi *lino* “tooth”, Lolo *jinu* “tooth” etc
Kongo *dia* “eat”, Soko *lea* “eat”, Kele, Swahili *la* “eat”
Mande *ni* “tooth”, *du-mu-ni* “eat”
Mande *da* “mouth”
Mangbetu *dinda* “remains of food”
PCS **nyo* “eat”
PCS **tar, *la* “mouth”
ES Mahas *nid,* Kenuzi *nihta, ni:ta* “tooth”, Barea *nihitta* “tooth”
CN Kunama *uda* “mouth”

***N = n** ***I = i** **N = n** ***D = d**
***A = a**

BRIGHT **Sumerian** *bar, babar* “light’
PWS *man, mal* “flame, light” (nasal grade of *ba*), Yoruba *marāmarā* “dazzling”
PWS *pat* “sun” (“sun” often from “fire”)
Swahili *umeme* “lightning”
Mande (Delafosse) *mana, mènè* “flame”
Songhai: Gao *meli,* Djerma *mali* “lightning”
Mangbetu *ope* “to shine”

PCS **podu* “fire” ?
PCS **ba* “village” (village fires)
Chari-Nile: Mahas, Old Nubian *maša* “sun”, Kenuzi, Dongola *masi(l)* “sun”, Nandi *maa* “sun”
Afro-Asiatic: Batta Garua *baratje* “lightning”: Semitic : Akkadian *bara:qu* “to lighten” (Greenberg)

***B = b** ***A = a** ***L = r**

BROTHER **Sumerian** *šeš* “brother”
PWS *tí* “tree”, compare Igbo *o-sísí* “tree” (reduplicated)
PWS *tú* “tree”
Bantu *dugu* “brother” (of man)
South Nyasaland *sia* “brother”, Teke (Kwa-Kasai etc) *teɣe* “brother”, Tanganyika –Bangweulu *eki* “brother”
Bantu *di,* “tribe”(tribes being thought of as “trees”)
Ewe *tsá, tse* “younger brother”, Kunama *iša* “younger brother”
Mangbetu *tu* “stomach”
Sudan (1911) *tí,a* “younger brother”
Khoisan: Auen (N) *tsĩ, cĩ* “brother”, Naron (C) *asi* “sister”
Afro-Asiatic: Modgel *sen* “brother”, Somrai *sen* “brother”, Beja (N) *san* “brother”, Demba (C) *san, zin* “brother”, Egyptian *sn* “brother” (Greenberg)

***T = š** ***I = e** ***T = š**

BUILD **Sumerian** du_3 “to build”
PWS *tu* “to build”
PWN *BAK, JING, TU (TUN), yak* “build” [*d = t*]
Bantu *túng* “build”
Mande *lo, do,* D *dyo* “build”
Mangbetu *otu* “to push”
PCS **do* “to work”

***T = d** ***U = u**

BULL, OX **Sumerian** *alim* “bull, ox”
PWS *li, lu* “cow, head”
PWN *NITATI* “buffalo”, *(GHIDU)* “head” Prefixed, + *-m*
Poto *njali* “buffalo”, Ngombe *nzali* “buffalo”
Mande *tóra, tóla,* D *tūra,* M *tūla, misi-kyè, nisi-kyè* “bull” ?

***L = l** ***I = i** ***A = a**

YOUNG BULL **Sumerian** *amar* “young bull”
PWS *lu, (ru, du)* “head”
PWS *lu (du)* “tower”
Gur **dun* “animal” [*r = d*]
Yoruba *maluu* “bull”

[Sumerian has a preprefix *a-* + prefix *ma-* + root *ru, lu* “head, cow” etc.]

***A = a** ***M = m** ***A = a** ***L = r**
***U = #**

BULL **Sumerian** *gud, gu*$_4$ "bull"
Ruvuma-Nyasaland *kunzi,* S. Rhodesia Pungwe-Sabi *hunzi,* Sengwe-Ronga, Zulu-Kafir *kunzi, kunti* "bull". The Sumerian *gud = kut.* The *–ti* means "horns" in Niger-Congo. Or *–di* "head".
Bantu *jeku* "bull". The root *ku* means "male"
PWS *kuni* "husband"
"Holoholo" *kul'* "to grow"
Khoisan has */gau, gau, kau* "buffalo" (reduction to *gu* in Sumerian ?).

[*ku* was used of large (male) animals].

***K = g** ***U= u** ***T = d**

BURN **Sumerian** *igi...la*$_2$ "burn"
PWS *ná* "fire", Yala *o-la* "fire" Boritsu *u-la* "fire"
PWS *ki* "moon" (thought of as "fire") ?
PWN *KIUL* "moon"
PWN *GIK* "fireplace"
"Bantu" (Johnston) *la* "fire" (250), *ōla* "fire" (247), *ura** "fire" (254), *ōra* "fire" (255)
"Bantu" (Johnston) *giri** "tree" (51a)
Mangbetu "to roast on fire"
ES Nandi *ilal* "kindle"
CS Kreish *ošaki* "burn", Nyangiya *tak* "fire"

***L = l** ***A = a** ***K = g** ***I = i**

BUTTER **Sumerian** *i*$_3$*-nun* "butter"
PWS *nu* "mouth", PWS *nu* "to drink", Gurma *ńu-ni, ńi-ni,* "drink", Kissi *ńun* "to drink", Songhai *ńin* "to drink"
PWS *mi* "fat"
"Bantu" (Johnston) *şimi* "fat" (255), *şimi* "fat" (256),
but *mai* "fat"(258, 253), with *d* loss, from *di** "fat" (185, 189, 190).

***N = n** ***U = u** ***N = n** ***I = i**

BY, AT, IN **Sumerian** *e* "by, at, in" (loc/term)
PWS *ni* "inside, in", Adele *a-ni* "inside", *a-ne* "inside, in", Dagomba *ni, ne* "in", Tobote *e.-n* "in"
PWN *TI (TITI)* "inside"
"Bantu" (Johnston) *ne, ni* "in" (65-69, 256), *te* "in" (157, 214, 217, 218, 219), but *a* "in" (217) from *ka*, ga*.*
[*ni* is from *ti*; *ne* is from *ni*; *ne* > *e*?]
Afro-Asiatic : Cushitic : Beja (N) *gɛb* "by, near", Bogo (C) *gaba:* "by, near"; Chad : Hausa (1) *gaba:* "in the presence of" (Greenberg)

***N = #** ***I = e**

CANAL **Sumerian** *pà* $_{4,5,6}$ "canal"
PWS *bà, bàt* "swamp", "sea", PWS *pat* "swamp"
PWN *BHO (BHOM)* "be wet"

Kele *botoku* “mud”, Lolo *basi* “water”, Kele *balia* “water”
Mande *bã, (bā-n)* “muddy water”
Mangbetu *pa* “depth of a stream”

***B = p** ***A = a** ***T = #**

CALL **Sumerian** *pad₃ (pa₃)* “to call, reveal”
PWS *bà, bàl* “to count”
PWN *BUAK* “arm” (used for gestures)
PWN *BÍL* “to call”, PWN *BIL* “tell”
Bantu *bad* “to count”
Kongo *boka* “to call”, Ngala *beka* “to call”
“Holoholo” *bal* “to count”
Mangbetu *ongo* “to call”
PCS **puo* “to curse, to lie”

***B = p** ***A = a** ***D = d**

CAPTURE **Sumerian** *i* “to capture”
PWS *g i, g ia, giu* “to steal”
PWN *GHIU* “to steal”
Bantu *jí,b* “to steal”
“Holoholo” *ib* “to steal”
Mande (Delafosse) *gyō* “captive”
Mangbetu *ôwi* “to steal”
Mangbetu *hi* “road”
Mangbetu *ahu* “to imprison”
ES Old Nubian *ki, kire* “to come”
CN Madi *eki* “to come”
PWS *tú, tí* “to take” ?
PWN *TIAK* “to bind”
Bantu *tiud* “to take”
Mande M *tikè* “hand”

***G = #** ***I = i** **or** ***T = #** ***I = i**

CARGO, LOAD **Sumerian** *ú* “load, cargo”
PWS *lu, (du)* “head” (compare Nautical “head” = direction).
PWN *LÚB* “dip in”
PWN *LÙI, (LÙ)* “go out”
Bantu *tut* “carry from ... to”
Soko, Kele *tola* “to carry”
Adamawa : Lakka *tu(l)* “head” (may be NS)
Mande *dōni* “load”
Mangbetu *du ngbongbo* “load”
PCS **d.u* “head” (head of a ship ?)
ES Dongola, Kenuzi, Mahas, Gulfan *ur* “head”
CS Madi *oru* “up”, Moru *kuru* “up”, Lendu *ru(na)* “up” (ships sail up)

Linear A sign *U* means “ship”, surely not a coincidence. Ships had eyes, a front, a head.

***D = #** ***U = u**

CARRY, REMOVE **Sumerian** *lá* “carry”, “load boat”
Old word for “go”.
“Holoholo” *lag* “come before”, *lah* “flee”, *lak’* “to march”
PCS **la* “motion”’
ES Merarit *la* “to go”, Ingasssana *pala* “descend”, Bari *wala* “to go out”
CN Lendu *ra* “to go”
Afro-Asiatic : Chad : Mubi (9) *la* “cattle”, Cushitic : Afar (E) *la:* “cattle” (rustling)

***L = l** ***A = a**

CHILD **Sumerian** *ibila* “son, heir”
PWS *bí* “child” (to bear)
PWN *BÍ* “child”
Bantu *bíad* “to give birth”
Gur **bi* “infant”
TogoR **bí* “small child” (*bi* “small”
Mangbetu *êngu* “to nourish”
Mangbetu *ngwandro* “daughter”
Mangbetu *ngwe, ngwangwe* “infant”
Mangbetu *ênie* “to raise an infant”
Mangbetu *nieniere* “little”
Mangbetu *onio* “to eat”
Medje *tiripi* “infant”

***B = b** ***I = i**
CHILD **Sumerian** *dumu* “child, son”
PWS *lu (du)* “head”
PWN *DUG* “tribe”
Bantu *di,* “tribe, race”
Bantu *dúme* “husband”
Swahili *mume* “husband”
Ngombe *momi* “husband”, Poto *molomi* “husband”, Kele *bolomi* “husband”
Swahili *–ume* “male”, Kele *bolome* “male”, Soko *motolomi* “male”
Mangbetu *dru* “head”, *dudu* “weak man”
Central Sudanic: Kreish *uddu* “man”
PCS **d.u* “head”

***D = d** ***U = u** ***M = m**

CHILDREN **Sumerian** di_4-di_4-*la* “children
PNC *ti-* “small plural”
PWN *DUG* “tribe, clan”
PWS *tí, tú* “tree”
PWN *TÍ* “tree”
Bantu *di,* “tribe”
Bantu *toó, (toó)* “small”
Bantu *tí* “tree”
Ngala *–ti* “small”
Swahili *mtoto* “child”
Mande (Delafosse) M *di-n.kyè* “son”

Mande (Delafosse) *tyeni* “small”
Mangbetu *titi* “young tree, young bird”

***T = d** ***I = i** **or** ***D = d** ***I = i**

[“tribes, trees, children” were all connected].

CHILD KING **Sumerian** *am* “lord, master”
PWS *kùàn* “life”, Tschi *ŋ-kwá* “life” ?
PWN *GHWYÁN* “child”
Bantu *jána* “child”
Swahili *bwana* “master”
Kongo, Bangi, Ngala, Poto, Ngombe *mwana* “child”
Kele *wana* “child”, Lolo *bona* “child”, Soko *mona* “child”
“Holoholo” *–aná* “infant”, **mwaná múlasi,* “feminine infant”
Mande *wóro-de, wólo-de* “infant”
Mangbetu *ngwe, ngongwe* “small child”
Mangbetu *mbômbi* “master” (adj.)

***GW = #** ***A = a** ***N = m**

CIRCLE, CURVE **Sumerian** *gúr* “circle, curve, sphere”
PWS *kua* “to go”, Tschi *ko, koro* “to go” (roll) “ring”
PWS *kua* “leg”
PWN *kul, kulun* “to roll’
Bantu *kunguduk* “to roll” **Sumerian** kur_9 “turn round”
Mande M *kulu, kuru* “round”

***K = g** ***U = u** ***L = r**

This is a pan-African root. Arabic *kull* “all” is related. The circle is a “complete” shape.

CITY [Ur] **Sumerian** *uru* “city”
PWS *li, lu* “head”, Grebo *lu* “head”, Dewoi *du-ru* “head”, Gbe *du-ru* “head”
PWN *TÚI* “head”
Bantu *túe* “head”
Ngombe *molu* “head”
Mande *dugu,* M *duhu, dū* “village”
Mangbetu *dru* “head”
PCS **d.u* “head”
ES Dongola, Kenuzi, Mahas, Gulfan *ur* “head”
CN *kuru* “head”

[“City” comes from “head”, ie “capital”.]

***L = r** ***U = u** ***D = #** ***U = u**

CITY [Mari] **Sumerian** Mari (city of)
PWS *má* “city, town”
TogoR **o-má* “city” (Heine 1968)
[PNC *ma “mountain”].

PWS *ba* “be in a place” and PWS *bia* “place” *(ba).*
PNC (Armstrong) *ma(h)* “build” (mud house), Fula *mah* “mud house”, Bini *má* “make pots or bricks”, Tiv *màà* “build, mould”
PWS *ma, man* “to finish”
Bantu *ba* “courtyard, enclosure”
Mangbetu *oma* “to assemble”, *bari* “village, enclosure”
ES Midob *tuma* “all”
CN Kunama *tumma* “all”

Mediterranean substrate *ma* “hill”, Maori *marae* “raised meeting place”

[Presumably *ma* is a nasal grade of *ba*].

***M = m** ***A = a** ***D = r** *** I = i**

CLAW **Sumerian** *umbin* “claw”
PWS *kuìà* “to cut”, PWS *kú* “to kill”
PWS *bì* “wound”, Ewe *a-bì* “wound”, Nyanbo *ki-bi* “wound”
PWN *BI* “war”
Bantu *puta* “wound”
Lolo, Ngala, Poto *ampota* “wound”
Soko, Kele *bita* “war”
Mangbetu **bi* “wound”
PCS *b*i*, *b*e* “to open”

***B = b** ***I = i** ***K = #** ***U = u**

CLOUD **Sumerian** *muru*$_9$ “cloud”
PWS *lu* “head”, Gbe *du-ru* “head” (“top, summit”)
PWN *LUND* “clouds”
Bantu *du,nde* “clouds”
Mande (Delafosse) *munda, muna, mūrā* “cloud”
Mangbetu *mundukuba* “cloud”
PCS *b*u* “cloud”

[The root is *lu, ru, du* “head”]

***L = r** ***U = u** ***M = m** ***U = u ?**

COME **Sumerian** *ĝin* ‘come”
PWS *g̲ i, g̲ ia* “to go”, (PWS *g̲ ì* “black”)
PWS *kia* (+ Nasal) “to go”, Mossi *k’e̲ŋ-ye* “to go”, Grussi *tje̲ŋ* “to go”, Kandjaga *tjan* “to go”
PWN *GWÌA* “go”, PWN *CÍ* “land, country”, PWN *JI, KI, (KYI, CI)* “village”
Bantu *gi* “to go”, Bantu *ji,j* “to come”
Bantu *níin* “to ascend”
Mande *gyēru, dyēru* “to come and go”
Eastern Sudanic : Old Nubian *ki* “to come”, Nile Nubian & Old Nubian *kire* “to come”
Central Sudanic : Moru *ɛkyi* “to come”, Madi *eki* “to come”

(Nilo-Saharan : Berti *kai* “to come”, Zaghawa *koi* “to come”)

***G = ĝ** ***I = i** ***N = n ?**

CONVERSE **Sumerian** *ka...ba* “converse”
PWS *ká, kán* “to speak”
PWS *bà, bàl* “to count, read”
PWN *BUAK* “arm”
PWN *KA* “arm”
Bantu *gamb* “to speak”
Mande *kāle* “to speak”
Mangbetu *kaba* “interjection”
Khoisan has *ka, gawa* “to speak”
Afro-Asiatic : Chad : Hausa *kay* “head” (action of head), Hausa (1) *?afa* “throw in mouth” , Angas (1) *po,* Bolewa (1) *bo* “mouth” (Greenberg)

[Compare the Hebrew *kabbalah*].

***K = k** ***A = a** ***B = b** ***A = a**

CONVERSATION, HAVE **Sumerian** *inim...bala*
PWS *(ni, nia)* “mouth”, Efik *i-nua* “mouth”, Korop *i-nwa* “mouth”, Siti *ni-hĩ* “mouth” Yoruba *ni* “to say”
PWN *NÍANA, NÍUNA, (NÚA)* “mouth”
PWS *bà, bàl* “to count, read” (*ba* “hand”)
Bantu *négen* “to say, to speak”

***N = n** ***I = i** ***B = b** ***A = a**

CORD, ROPE **Sumerian** *dim* “cord”
PNC **li, *ri* “tie”
PNC *ri “rope”, Grebo *li* “rope”, Bini *iri* “rope”, Idoma *oli* “rope” etc.
PWS *bálí* “to bind”
Mande *siri* “to tie”
Mande *dyulu* “rope”, *kala-lili* “bowstring”
Nilo- Saharan: Gao *šillei* “rope”
Soko *lifindi* “hand” (tie with hand)
PCS **-or* “tie”

[Maori has *iri* “hang, be suspended”, Malay *tali* “rope, tie”]. [Old word *di* “right hand”, “tie”].

***R = d** ***I = i**

(THREAD), CORD **Sumerian** *gu* "cord, wool, linen"

PWS *gu* "cotton plant", Yoruba *e-gu* "cotton tree"
PWS *gua* "hand"
PWS *kuà* "to have", "to give"
PWN *KUL* "draw out water"
PWN *KUN* "fill a mouth"
Bantu *kua* "Hand anlegen", *kuata* "to hold"
Ngala, Poto *mokulu* "cord"
Mangbetu *hu* "cotton plant"
Old word *ku* for "hand" (also "leg")

***K = g** ***U = u ̀**

(TIE), CORD **Sumerian** *sa* "cord"
PWS *ta* "hand"
Nupe *so* "to tie" (action of hand)
Yoruba *so* "to tie"
Soko *isoso* "to tie"
Kele *bosamba* "hand"
ES Alur, Shilluk, Luo *tol* "cord", Berta *tsera* "cord"
Afro-Asiatic : Hausa (1) *sak?a,* Angas (1) *sak,* Musgu (7) *sasaka* "weave"

***T = s** ***A = a**

COW **Sumerian** *áb* "domestic cow"
B & Semi-B. *bǎm* "cow" 242, *badɷa* "cow" 225 (North-West Bantu and Cameroons).
Perhaps PWS *bà* "two" (two horns), with prefix. But the *ba* may be for "hand" (domestic).
Or Afro-Asiatic : Chad : Kuri (2) *sa* "cow", Margi (3) *hsa* "cow" etc (Greenberg) + *ba/i.*

[The *sa* is from *ta* "hand, tie"] ****T = s > #.**

***B = b** ***A = #** ***S = #** ***A = a**

COWHERD **Sumerian** *udul* "cowherd"
PWS *lu, li* "cow", Gio *d.u* "cow", Ahlo *u-lu* "cow antelope", Avatime *ó-lu* "antelope"
PWS *lu (du)* "head"
Bantu *túe* "head"
Mande *ku* "head" (lost prefixes affect the initial consonant: *T/K*).
CN Moru *kuru* "head", Bertat *alu, kuru* "head"
Afro-Asiatic : Semitic : Aramaic *gulgulto,* "skull" (cf Golgotha)

[Sumerian has a nominal prefix before the root *du* and an article *l* after it. The Niger-Congo article often serves to mark the agent].

***D = d** ***U = u** ***L = l** ***K = # ?**

CUT **Sumerian** *zé* "cut"
PWS *tè* (+ nasal) "cut"
PWN *TEM* "cut down"
Bantu *teet* "cut" ?

Mande *teke* “to cut”
Mangbetu *te* “hand”, *tédru* “dagger”, *teke* “two hands”
ES Dinka, Nande *tem* “to cut”

***T = z** ***E = e** ***M = #**

DARK **Sumerian** *zi* “dark coloured”
PWS *g ì* “black”, Igbo *o-dži* “black”, Igbira *dži* “black”, Gbari *dži-hi* “black”
PWN *DIM (DIUM, TIM)* “darkness”
Bantu *tik* “black”
Bantu – *(j) í,di,má* “darkness”
Ngombe *modidi* “darkness”, Poto *ndima* “darkness” etc.
Mande *su, si* “night”
ES Ingassana *dui,* Nandi *tui* “black”
CS *titi* “black”
Afro-Asiatic : Chad : Buduma (2) *tsillim,* Sokoro (7) *silim* “black” (Greenberg)

***D = z** ***I = i** **or** ***T = z** ***I = i**

DATIVE **Sumerian** *na* “give”
PWS *ná* “to give”
Bantu *nink* “to give”
“Bantu” *na, nyana, ana* (134), *na* (248), *nts’a* (74) “give”
Kongo *vana* “give”

[Compare PWS *ta* “hand”= “give”].

***N = n** ***A = a**

DAY **Sumerian** *ud(u$_4$)* “day, light”
Sumerian *utu* “sun”
Sumerian *u$_4$* “day, daylight”
Sumerian *šún* “star, to shine”
Sumerian *uzu$_5$* “sunset”
“Bantu” (Johnston) *tuku* “day” (11, 12, 14), *tu, utu, butu* “day” (123 – 125, 141, 148, 159, 159a, 160)
PWS *tùà* “to roast”
Bantu *túku* “day”
Bantu *tu,mb* “to roast”
Mande *dugu, dū* “day”
ES Modob *ussi* “fire”, Masai *isul* “burn”
CN Central Sudanic : Moru *ud?u,* Madi *od?u* “day”
CN Central Sudanic : Lega *kasua* “fire”
NS Zaghawa *utto* “sun”, Fur *udo* “day”
Mangbetu *tuné* “day”
Mangbetu *tulu* “star” (small sun)

Mangbetu *osu* “to burn”
PCS **do* “day”

***T = d** ***U = u** ***T = t** ***T = š**

***T = #** ***T = n ?**

DEER **Sumerian** *lulim* “deer”
PWS *lu, li* “cow, antelope”
PWS *li, lu* “head”
Bantu *gidi* “antelope”, *kudungu* “antelope”

[*l*-grade of *tu, ti* “head”, Likpe *di-sì* “head” etc, PWN *TÚI* “head”, Bantu *tu* “head”]

***L = l** ***U = u** ***I = i**

DESTROY **Sumerian** *<u>h</u>ul* “to destroy”
PWS *kú, kúá, kúí* “to kill”, Senufo *kuli* “to kill”
[Compare Ewe *<u>f</u>ú, χú* “bone” from PWS *kú* “bone”; Sumerian *<u>h</u>* = *χ*]
PWN *KU* “kill”
Bantu *kú* “die”
“Holoholo” *ki, ’* “to die” *kĭ,* “corpse”
Mangbetu *ahu* “to crush”
Khoisan has eg Hatsa *//k??o, //o* “to kill” (die)
Mangbetu *âki* “to destroy”

K = *<u>h</u> ***U = u** ***L = l**

DIE **Sumerian** *uš*$_2$ “die”
PWS *kú* “kill, die”, *ku-tũ* “dead body”, *kùkú* “death” **Sumerian** *ug*$_{5,\ 7,\ 8}$ “dead person”
PWN *KU* “kill”, PWN *KHWÚ* “die”
Bantu *kú,* “to die”
Soko *hua* “to die”
Mangbetu *ônzi* “to kill”
PCS **du* “hit, stab”, PCS **fu* “kill” ?
Afro-Asiatic : Chad : Hausa (1) *mutu* “die”; Egyptian *mwt* “die” ?

[The original *k* > *h* > # ; compare DESTROY]

***K = #** ***U = u** ***T = š** **or** ***M = #**

DISTANT, REMOTE **Sumerian** *ul* “be distant, remote”
PWS *ku, kul* “old”
PWS *kua* “road”
PWN *KUA* “go” (from **kula*)
PWN *KWUL* “be big”
Bantu *kúdú* “adult”

Bantu (Meinhof) *kulu* “big”
Bantu *buk* “go away”
Khoisan /Nusan (s) *!nu* “foot”
ES Dilling *okul,* Kondugr *oŋgul* “road”
CS Bulala *kori, gõri* “road”

[Sumerian has lost initial *k* and final *a*]

***K = #** ***U = u** ***L = l** **or** ***B = #**

DO **Sumerian** *du, dudu* “do”
PWS *tum* “to work”
PWS *lù* “to weave, *lu, (du)* “to plant”
PWN *TU (TUN)* “to build”
PWN *DUT* “to pull”
Bantu *ding* “to do”, *gid* “to make”
Bantu *di,t* “to work”
ES Barea *doko, toko* “one” (hand, task)
PCS *d*o* “to work, cultivate”

***T = d** ***U = u** **or** ***D = d** ***U = u**

DO **Sumerian** *ki* “do”
PWS *kia* “to do”
PWN *KIT* “to end”
Bantu *gid* “make”, *kít* “to make”
Mande *kè* “to do”
Khoisan : Hatsa *cikina* “make”
PCS **ki* “to break”
Mangbetu *âki* “to break”, “to cause, invent”, “to destroy” etc

***K = k** ***I = i**

DOG
PWS *ku(ri)* “stomach”, “quadruped”

Sumerian *ur* “dog, carnivore”
Sumerian *ur-ger*$_x$ “dog”
Sumerian *ur-gir*$_{15}$ “dog” (*ur-gi*$_7$)
Sumerian *ur-bar-ra* “wolf”
Sumerian *ur-maḫ* “lion”
Sumerian *ur-limmu* “quadruped”

PWS *búá* “dog” ?
PWN *BHÚA* “dog”
Bantu *búa* “dog”
Mande *wuru* “dog”

[Loss of initial *k* and final *i*; Sumerian *ur* “man, warrior” is distinct, {PWS} *ku-* “big, male”, Yoruba *o-kūrī* “man, male”, Chad *kuri* cattle.]

***K = #** ***U = u** ***R = r** ***I = # ?**

DOOR **Sumerian** *ig* “door”
PWS *g i* “to go” (*gigi ?)
PWS + nasal *kia* “to go”
Bantu *ji,gi* “door”
“Holoholo” *ingil* “to enter”
Mande M *ku* “door”
Mangbetu *hi* “road”
PCS **ayi, *iya* “go”

***G = g** ***I = #**

DRINK **Sumerian** *nag̃* “drink”
PWS *ni, nu, niu, niua* “to drink”, Kposso *ńua* “to drink”
PWN *ŊIU,(ŊIUM, ŊU)* “to drink”
Kongo, Bangi *nua* “to drink”, Swahili *nwa* “to drink”, Soko *noa* “to drink”
Bantu *nyó* “to drink”
Bantu (Meinhof) *nyiwa* “to drink”
PWS *nu, nua, (ni, nia)* “mouth), Ada *ńa* “mouth”, Santrokofi *ka-ńa,* Likpe *ke-ńá,* Akpafu *ka-ńa,* “mouth”, Gola *o-ńá* “mouth”, Bidjogo *ka-na* “mouth”
PWN *NÍANA, NÍUNA (NÚA)* “mouth”
Mande *mi-ni kè* “drink”, *da, yā* “mouth”
Khoisan : Hatsa *!nai* “to eat”
PCS **ona* “drunk”

***N = n** ***A = a** ***K = ĝ ?**

DRY **Sumerian** *ša* “dry”
Yoruba *sa* “to dry in the sun”
Nupe *sá.* “to dry”
PWS *ta* “fire” (as of the sun)
TogoR **tanú* “fire”
PCS **sa* “burn”
ES Nyangiya *tak* “fire”
NS Kunama *taku* “burn”, CS Kreish *ošaki,* Bagirmi *saga* “burn”,

***T = š** ***A = a**

DRY **Sumerian** *ḫad*$_2$ “dry”
PWS *kùà, kùàl* “dry, hard”, Grebo *kpã* “to be withered”, Gola *kpà* “hard”
PWN *KA (KAK)* “become dry”, *KWUA* “dry, hard”
Bantu *kád-u,* “dry”, *kád* “become dry”
Mande *gya, dya* “to dry”
PCS **kpa, *gba* “hard”

***K = ḫ** ***A = a** ***L = d ?**

DRY **Sumerian** *laḫ* “dry, shine etc”
PWS *la, (da)* “day”, “sun”, *d.ā* “always”
PWN *DÌNÁ* “fire”
Bantu *dang* “to shine” (-*k-)
TogoR *tanú* “fire”
Mangbetu *etele* “dry” (*ta “fire”)
CN Kunama *taku* “fire”

***L = l** ***A = a** ****K = h̲**

EAR **Sumerian** *geš-tug*$_2$ "ear"
PWS *tiè* "hear"
Ewe *tó* "ear", Dan *tu* "ear", Kanjaga *tu(i)* "ear". Yoruba *e-ti* "ear" has a prefix,
PWN *THÚI, THÚ* "ear"
Bantu *túi,* "ear", *(to)*
Bantu *(ko)to* "ear" etc.
Khoisan : Sandawe *keke* "ear"
ES Mahas, Fadidja *ukk, ukkire* "to hear", Merarit *ig* "to hear"

Compare Gola *kénú* "ear", Okoy *i-nuŋ* "ear", Korop *lu-nuŋ* "ear". PWS *nú* "hear", with numerous Niger-Congo cognates, must be from a nasal grade of *tu.*

[Sumerian has a Niger-Congo type prefix on this word, *ĝeš-* , probably from PWS *g̲ e, g̲ el* "skin"]

***T = t** ***U = u**

EARTH **Sumerian** *ki* "earth"
PWS *g̲ ì* "black", Ewe *yì* "black", Dahomey *wi* "black", Igbara *dži* "black"
PWS *kì* "market", Ewe *a-sì* "market"
PWN *CÍ* "country, ground"
PWN *KI, (KYI, CI)* "village, settlement"
Bantu *cí* "ground, country"
Bantu *jí, d-o* "dark"
Kongo *nsi* "country", Swahili *inchi* "country"
Mande *fi̲* "black" [*b]

***K = k** ***I = i**

EAT, FOOD **Sumerian** *gu*$_7$ "eat", "food"
Sumerian *ú* "bread"
PWS *ku* "stomach"
PWS *kúán* "life"
PWS *kú̲án* "hunger"
PWN *KUEKIT* "to knaw"
PWN *KUN* "fill a mouth"
PWS *g̲ua* "hand"
"Holoholo" *kuujo* "manioc"
Mangbetu *ênu* "full" ? (*nku)
Mangbetu *kuku* "edible herb"
PCS *nyo* "eat" ?
ES Nandi *kulkul* "armpit"
CN Kunama *ukunkula* "armpit"
Old word *ku for "hand" gives "eat" etc.

***K = g** ***U = u** ***K = #** ***U = u**

EGG **Sumerian** *nunuz* "egg"
PWS *ni, nu, niu, niua* "to drink" (suck eggs), Gurma *ńu-ni* ""to drink", Kissi *ńun* "to drink", Songhai *ńin* "to drink".
PWS *nu, nua, (ni, nia)* "mouth"
PWN *NÙNI* "bird"

Bantu *nua* “mouth”
Kongo *nuni* “bird”
PCS **nyo* “eat”

***N = n** ***U = u**

EIGHT **Sumerian** *issu* “eight”
PWS *nú* “hand”, also “five”, Likpe *ko-ní* “hand”, Kandjaga *ni* “hand” (ie. “five”) + PWS *kuà* “to have”
Bantu *kua* “to lay hands on, Bantu *kuata* “to take hold”, compare Sumerian *eš$_5$* “three” (from **ešu*).
Old word *ku for “hand”. The hand has 4 (or 5) fingers.
“Holoholo” *so* “left” (hand)
Mangbetu *sosua* “four”
PCS **so* “four”

***N = #** ***I = i** ***T = s** ***U = u**

END, TO **Sumerian** *til* “put an end to”
PWS *tì* “ to close” (to open), Santrokofi *ti-ki-ti* “to take off a hat”
PWN *THI, THIG* “to leave”
Bantu *ti,g* “to leave behind”
Mande *timi* “to finish”
Mangbetu *ati* “be full”
PCS **ti* “hit”

***T = t** ***I = i**

ENTER **Sumerian** *kur$_9$ (ku$_4$)* “to enter”
PWS *kua* “leg, foot”, PWS *kua* “to go”, *kù, kùa* “house, room in house”
PWN *KUA* “go” **Sumerian** *su$_8$, sub$_8$* “to go”
Bantu *k(a)* “to go”
Ngombe *kwea* “to enter”, Lolo *ecua* “to enter”
PCS **gu, *go* “motion”
PCS **kum* “knee”
Afro-Asiatic : Cushitic : Beja (N) *gunba,* Saho (E) *gulu:b* “knee”
NC *ba “go”

***K = k** ***U = u** ***K = s** ***U = u**

EQUIDS **Sumerian** *anše* “equid”
PWS *kati* “horse, donkey”, Kukuruku *a-katsi* “horse”
Nuba *kag’ (kad)* “donkey, horse”
Gbaya *kétjè* “donkey”

***K = #** ***A = a** ***T = š** ***I = e**

ERGATIVE **Sumerian** *–e* “do”
PWS *kia* “do”
PWN *KIT* “to end”
Bantu *gid* “to make”
Bantu *kít* “to make”
Bangi, Lolo, Ngala, Poto, Soko, Kele *kela* “to make”
Mande *kè* “to make”
Khoisan : Hatsa *cikina* “to make”
Mangbetu *ki* “to cause”

***K = #** ***IA = e**

EYE **Sumerian** *igi* “eye” [*g = k*]
A-A Longarim (Chari-Nile)*gini,* Buduma *yil* “eye”
PWS *kí, kíu* “moon”, *kìa* “become visible” may be connected (first syllable).
Atlantic : Djola, Pepel, (so Westermann) have *-kil* “eye”
Common Bantu (Stewart) *ki* “to dawn”
B & Semi-B *ji* “eye” (249), *gi* (250), *kil, şil* “eye” (270, 273, 273b), *iş, ih’, ix, i,* (passim) & *işi, isi, ihi,* etc (Johnston 1922 : 290) all suggest early *gigi, *kiki “eye”. Judging from PWS *kia* “become visible” the word “see” was once voiceless (no passive), ie was a noun.
Mangbetu *ki* “visit”
PCS **(kV)mV* “eye”
Nilo-Saharan : Fur *agil,* Koma *gil* “see”; Semitic : Arabic *?inna* “behold”, Hebrew *hinn* “behold” (Greenberg)
Chari-Nile: Sokoro *yi:di* “eye”, Qara *yil* “eye”
Mande *ye* “to see”, *ye-li ke.* “regarder”, *n.’-yā-kili* “eyeball”

***K = g** ***I = i**

FACE **Sumerian** *igi* “face”

See under EYE.

FASHION, FORM **Sumerian** *dim_2* “to form”
PWS *lib* “kill”, *lim* “extinguish”
PWN *DIM* “extinguish”
PWN *DIK* “tend”
Bantu *dí,m* “be extinguished”
Ngombe *dima* “to extinguish”, Poto, Soko *lima* “to extinguish”

[An old word for “right hand”, *dima,* is the basis for this word. Used also for “tongue”.]

***D = d** ***I = i** ***M = m** ***A = #**

FATHER **Sumerian** *a-a, ab-ba* “father”
PWS *ba, baba,* Banyun *a-ba* “father”, Gan *a-ba* “father”
PWN *BHÀBHÁ* “father, grandfather”
Bantu *baba* “grandfather”
Mande *fa-fa* “grandfather”
Mangbetu *pa* “father”
PCS **baba, *papa* “father”

See below.

***B = #** ***A = a** ***B = b** ***A = #**

FATHER **Sumerian** *ad-da* “father”
PWS *ta, tata* “father”, Ewe *a-tá* “father”, Bago *tatá-na* “father”
PWN *TÁ, TATA* “father”
PWN*(THÍA, THÍNA)* “father”
Bantu *taatá* “my father”
“Holoholo” *taată* “my father”
Mangbetu *tata* “grandfather”

***T = d** ***A = #** ***T = d** ***A = a**

FATHER, BROTHER, MAN, LEADER **Sumerian** *pab, pap,* pa_4 “father, brother, man, leader”

PWS *ba, baba* “father”
PWS *ba* “someone”, PWS *ban, bal* “man”
Bantu *ba-* “plural of persons”
Mande *fa* “father”
Mande *ba* “great” (suffix)
Mangbetu *pa* “father”
PCS **baba, *papa* “father”

***B = p** ***A = a** ***B = b** ***B = p**

FEMALE **Sumerian** *MÍ* “female” (+ *u* “mount”)
Sumerian mu_{10} “female”
PWS *bi* “bear”, “child”, also Nyangbo “Jungfrau”, PWS *bí* “female breast” (nasal grade *m-bi*)
PWN *BI* “to give birth”
Bantu *bí,ad* “give birth”
Mande *muso,* B *moso,* M *musu* “woman”
Afroasiatic: Chad: Karekare(1) *men* “wife”, Cheke (3) *min* “woman”: Cushitic: Geleba (E) *minne* “woman”, Sidamo (E) *men(ti)* “woman” (Greenberg)
Khoisan: Sandawe *tamitsu* “woman”
Mangbetu *muhie* “love”, *mu* “friend”
Mangbetu *mbi* “person”
Mangbetu *mbuadre* “old woman”
Mangbetu *muja* “slave”

[The Sumerian has a nasal grade of *bi* “give birth”, “female breast” (= “two”). So too Mande & Afro-Asiatic.]

***M = m** ***I = i** ***U = u**

(FEMALE) LAMB, COW **Sumerian** *kir*$_{11}$ "fem. lamb"
PWS *kì* "woman", Bowili *o-tširi* "woman", Guang *o-tsi* "woman"
PWN *KÍE* "woman, wife" **Sumerian** *kir* "cow" (fem)
Swahili *muke* "female"

***K = k** ***I = i** ***R = r**

FIRE **Sumerian** *izi* "fire"
PWS *lim, (dim),* Temne *lim, dim* "to extinguish", Bowili *diná* "to extinguish"
Bantu (Meinhof) *lima, ndima* "to extinguish"
PWN *DIM* "extinguish"
PWN *DÌNÁ* "fire"
Bantu *dido* "fire"
Bantu *jadi,* "lightning"
"Bantu" *didi* "fire" (204), *dite* "fire" (225), *iji, bu-iji* "fire" (82) are possible candidates for producing *izi.* Lack of a prefix is common on Sumerian nouns.
Mande M *gã-ndi, kã-ndi* "fire"
Eastern Sudanic: Dongola *masi(1)* "sun", Dagu of Darfur , Sila *ma:si* "fire", Modob *ussi* "fire"
Chari-Nile: Central Saharan: Maqdi *asi* "fire", Lega *kasi* "fire"

***D = z(s)** ***I = i**

FIRE **Sumerian** *ne-mur* "fire"
Sumerian *bún* "lamp"
PWS *ná* "fire", Kebu *ná-wo* "fire"
Mande *mana* "fire"
Atlantic *na, nak* "sun, day" (Westermann 1928 : 85 – 86)
PWN *PHI* "burn" (fire)
Bantu *pía* "fire"
"Bantu" *–ωmu* "fire" (195), but *bu, bi* (259, 267, 187, 184, *buri* 121, 222 etc), without nasalisation of *b* to *m.*
PCS **pVl, *pVr* "light"

***N = n** ***A = e** ***B = m** ***U = u**

FIRE **Sumerian** *bil, bi* "to burn"
PWS *pia* "red", *pian* "moon" (= fire) **Sumerian** *bir*$_9$ "to take fire"
PWN *PHI* "fire"
PWN *BÍL (BÍD)* "become cooked", PWS *BIL, (BIUL)* "be hot"
PPAB **pɪ* "become burnt"
Bantu *pía* "fire", *piga* "cooking pot"
Lolo *ica* "fire" (< *pica ?)
Mangbetu *ôbi* "to roast"
PCS **pVl, *pVr* "light"

***B = b** ***I = i** ***L = l**

FIRST **Sumerian** *maš* "first" (Delitzsch),

PWN *mot* “first” “one half” (Bord)

Sumerian *mas-su* “chief”

PWS *ti* “head”, Djarawa *mo-t* “head”
Bantu (Johnston) *mω, mωsa, mωsi* “one”
Mande *mara* “be at the head”, *n’-ye-mòŕò* “the head”
Bantu (Johnston 1922 : 464) *mō, mūe, mbei* (passim), *bω, bωte* “one” from *mba, *mbua + *ta ?, *ti
{Basque *bat* “one” : plosive grade}. Sumerian has a nasal grade here.

***M = m** ****A = a** ***T = š**

FISH **Sumerian** *ku*$_6$ “fish”

PWS *kù* “to scoop water” ? (HAND)
PWN *KHIUNI, (KHUINI)* “fish”
TogoR *o-tsune* “fish”
Bantu *cu,i* “fish”
Bangi *ncu* “fish”, Ngala, Poto *nsu* “fish”, Lolo *nsui* “fish”, Ngombe *sui* “fish”, Soko, Kele *swi* “fish”
“Holoholo” *kulu* “fish”
Mande *kuna* “fish”
PCS **kVnj* “fish”

***K = k** ***U = u**

FISH **Sumerian** *kiĝ/kin*^{ku6} “a fish”

PWN *KHIUNI, KHUINI* “fish”
Voltaic (Gur) **ñin* “fish”
Bantu *cu,i* “fish”
Ngombe *sui,* Soko, Kele *swi* “fish”, Lolo *nsui* “fish”
“Holoholo” *kulu* “fish”
Mande *yeg.e* “fish”
Mangbetu *ngere* “fish”
PCS **kVnj* “fish”

***K = k** ***I = i** ***N = n** **(ĝ = ng)**

FIVE **Sumerian** *ia*$_2$ “five” (also *i-*)

PWS *nú* “hand”, “five”, Temne *ní-ka* “finger” (five fingers to a hand).
B & Semi-B *nañi* “hand” (272), *nyen* “hand” (273-273e).
Mande *kini-mbolo* “right hand”

Johnston however (1922: 469) notes that “five” in the Irañgi language (26) “is the inexplicable *salia*”. The second part of this word *–lia* just might account for the Sumerian.

ES Kenuzi *diju,* Dongola *diji,* Dair *dišu* “five”[*(d)i* > *i*] ?

The PWS words for "tongue" *lima* (with variants) may come from an old word for "hand", "five", with the root *ma* "finish" (*li-ma* = "the end"). Maori has *rima* "five". Poto and Ngombe have *limbimba* "anchor" (with reduplication).

Both Bangi and Ngala use *mboko* for "anchor" : *-boko* is a common word for "hand". So does Sumerian ia_2 come from *lima* > *ia,* by consonant loss ?
The Sumerian word *i* means "push, take defeat", all actions of the hand. Linear A has the sign *I* HAND. Compare Linear A sign *A* for AXE with Sumerian *ḫa-zi* "axe".

***N = #** ***I = i** ***K = #** ***A = a** **Or**

***D = #** ***I = i** ***M = #** ***A = a**

FIVE **Sumerian** *i-* "five"
See the previous entry.
Johnston's *tani* (179), *tyani* (193), *tai* (187) "five" have the element *ni* at the end of the word. These are his Central Ogowe languages (NW Bantu).

***N = #** ***I = i** **or** ***D = #** ***I = i**

FIVE **Sumerian** *gid* "hand, five"
PWS *kia* "to make" (action of hand)
PWN *KIT* "to end"
Bantu *kita* "to do" (Meinhof)
Bantu *gid, kít* "to do" (Meeussen)
"Holoholo" *–ingil* "to work"
Mande *kè* "to do"
Mangbetu uses *–ki* for various actions of the hand, "make, destroy, break" etc.
PCS **ki* "break"

***K = g** ***I = i** ***T = d**

FOLLOW **Sumerian** us_2 "to follow"
PWS *kú* "to accompany", Tobote *ku-te* "hinzufügen".
PWN *KUA* "to go"
"Bantu" *cwe* "go" (119), *cui* (134), *cu* (136), *cua* (162) "go", also *guω* "go", *guā* "go" (255, 230), *hua* "go" (16).

[Sumerian has lost initial *k*; the final *s* is probably from *k*]

B & Semi-B *gulu, guru, kulu, kuu, guu, gū* "foot" (1, 2, 3, 5, 8, 9, 11, 12, 16 etc) of East Africa.

***K = #** ***U = u** ***K = s (reduplication ?)**

FOOT **Sumerian** $giri_3$ "foot"
PWS *gi, gia* "to go"
PWN *GWÌA, KUA* "to go"
Bantu *gi* "to go"
"Bantu" *gere* "foot" (2, 2b, 2c, 2d, 2f, 4, 6a, 9a, 25), *kire* (6), *geri* (9, 9c) "foot" (East Africa). This isogloss and its meaning support an East African origin for the Bantu languages.

***G = g** ***I = i** ***R = r** ***I = i**

FORT **Sumerian** *bad₂* “city wall”
PWS *ba* “big”, “round”, *ba* “be in a place”, *bia, (ba)* “place”
PWS *bia* “place”, Ewe *ba* “towards”, Gbari *a-ba* “place”
PWN *BHAL* “open place”
Bantu *ba* “courtyard”
Mande *be-na, be-ra* “place”
Mangbetu *bari* “village”
Mangbetu *bânda* “wall”
PCS **bo* “big”

***B = b** ***A = a** ***L = d** **or** ***D = d**

FOUR **Sumerian** *limmu₂, lim* “four”
PWS *ni* “four”, Okuloma *i-ni* “four”, Ewe *ene* “four” **Sumerian** *lammu* “four”
PWS *na, nan* “four”, Ahlo *à-là* “four”
PWN *NÍ, (NÍA)* “four”
PWN *NÁN* “four”
“Bantu” *ini, inine* (123), reduplicated (Johnston 1922: 467). “Frequently the *n* of the root passes into *l,* especially in the Fernandian language (226)”. Also *dai* (27).
“Holoholo” *nĕ* “four” (pronoun)
Mande *nãni* “four”

[I posit **li-ni-mu, *la-na-mu* as original, but with some doubt. Assimilation of the prefix vowel. Bantu *mu* “within, in” (the hand)].

***N = n** ***I = i** ***A = a**

FLY **Sumerian** *dal* “fly”
PWS *pap* “wind”
Bantu *padad* “fly”
Kongo *epapi* “wing”, Ngala *lipapu* “wing” etc
Mande *pã* “to fly” (with wings), also *dama* “to fly”
PWN *PAPA* “wing”
Mangbetu *oda* “go ahead”
PCS **la* “motion”

***D = d** ***A = a** ***D = l ?**

FOOD **Sumerian** *u, uku* “food”
Sumerian *gu₇* “nourishment”
PWS *kúán* “life”
PWS *kúám* “hunger”
PWS *ku* “stomach”
PWN *KUEKIT* “gnaw”
PWN *KUL* “satiate thirst”
PWN *KUN* “fill the mouth”
Bantu *gugun* “gnaw”
Mande *kunu-gu* “to devour”
Mande *yo* “life”
Mande M *kun.go* “hunger”
Mande M *subu* “viande”, also Mande *sog.o* “viande”
Mangbetu *kudukudu* “shadow, soul”
Mangbetu *u* “manioc”
Mangbetu *au* “to put a large amount in a receptacle”

Mangbetu *êu* “make abundant”
Mangbetu *ôu* “to be abundant”
PCS **kV-mE* “belly”

***K = #** ***U = u** ***K = k** ***U = u**

FOR, TO **Sumerian** *ra* “for, to” (dat)
PNS *la* “to go”
“Holoholo” *lak’* “to march”
Bantu *le* (200 Nyon) “to give”
PWS *ná* “to give”, PWS *la* “to trade”
Mangbetu *oro* “to flee”
PCS **la* “motion”

***L = r** ***A = a**

FOR **Sumerian** *na* “for” (dim.pref)
PWS *ná* “to give”, PWS *na* “to go”
Bantu *nink* “to give”
Mande Mande *ku-na* “for”
Mangbetu *onga* “to march”
PCS **ŋga* “motion”

***N = n** ***A = a**

FROM , BY **Sumerian** *ta* “from, by” (abl/ins)
PWS *ta* “to give”, PWS *ta* “hand”
Yoruba *tan* “to end”
Mande *ta* “from”
Mangbetu *to* “by” (“par”)
Mangbetu *andra* “from”

***T = t** ***A = a**

GARDEN **Sumerian** *kiri*$_6$ “garden”
PWS *g í, g íl, (g ít)* “tree”
Mande *yiri,* B *dyiri* “tree”
Mangbetu *kire* “wood”

***G = k** ***I = i** ***R = r** ***I = i**

GARDEN **Sumerian** *ǵǵ*^{š}*sar* “garden”
Bantu (Johnston 1922: 310) *sara* (9a) “grass” **Sumerian** *sar* “legumes”

Bantu (Johnston 1922: 309) *sā* (211, 212) “grass”
PCS **tsor* “grass”
Mangbetu *sanga* “grassy growth after burning brushwood” (*ta* “fire”)

{Maori *harakeke* “flax”: Maori *h*= *s*}
{Basque *sarale* “livestock feed”}

****T/*S = s** ***A = a** ***R = r**

GATE
PWS *guá* “gate”, PWS *kua* “go”
PWN *GWÌA, KUA* “go”
Bantu *kandā* “go”,
Bantu *kana’, kawa’, kanu* “mouth”’
Mangbetu *oka* “bite” (action of mouth)
Mangbetu *ka, kai* “particle”
PCS **gu, *go* “motion”
PCS **ŋga* “motion”

[Entrances were seen as mouths]

***K = k** ***A = a**

Sumerian ^{gu}*ká* “gate”
Sumerian *ka, kaka* “mouth”

GIRL, VIRGIN
PWS *kì* “woman” (small) + “wool”/ “pure”
PWN *KÍE* “woman, wife”
Bantu *ke* “wife”
Bantu *kádí* “woman”
Mande *kye-tigi* “wife”

***K = k** ***I = i**

Sumerian *ki-sikil*

GIRL
PWS *kì* “woman”
PWN *KÍE* “woman, wife”
Bantu *ke* “wife”
Swahili *muke* “wife”
“Holoholo” *ke* “small”
“Holoholo” *–ka-* “wife” (in compounds)

***K = g** ***E = e**

Sumerian *gé* “girl”

GIVE
PWS *bua, (ba)* “hand”
PWN *PHÁ* “to give”
Bantu *pá* “to give”
Ngala, Ngombe, Swahili *pa* “to give”

Sumerian *ba* “to give as gift”

Khoisan *ma* “give” (< *mba)
Mangbetu *âwô* “to give”
PCS **a?u* “to give”
***B = b** ***A = a**

GIVE **Sumerian** *sum* give”
Old word for left hand *ku.*
Mande *sõ, su* “to give a gift”
Afro-Asiatic : Chad : Angas (1) *kul,* Musgu (7) *kule* “left hand”, Cushitic **gu-* “left hand”
***T = s** ***U = u** ***M = m**

GO **Sumerian** *ĝin* “go”
PWS *g i, g ia* “go”, PWS *kia* (+ nasal) “to go”
PWS *na* “to come”
PWN *GWÌA* “go”, *KI (KYI, CI)* “village”, PWS *CÍ* “country, ground”
Bantu *gi* “go”, Bantu *ji,j* “come”
B & Semi-B *gira, jira* “road”
Mangbetu *hi* “road”
Eastern Sudanic: Old Nubian *ki, kire* “to come”
Central Sudanic: Madi *eki* “to come”
***G = ĝ** ***I = i** ***N = n** ***K = ĝ**

GO **Sumerian** *du* “to go, come”
PWS *lu* “knee”
PWN *DUI* “knee”
Bantu *du,(i)* “knee”
Bantu *du,* “come out”
Bantu *tu(u) duk* “descend”
Mande *dyulã* “descend”
***D = d** ***U = u**

GO OUT **Sumerian** *i-* “go out”, (*éd, è*)
PWS *g i, g ia* “go”, PWS *kia* + nasal “to go”
PWN *GWÌA, KUA* “go”
Bantu *gi* “go”
Bantu *ke* “go’
Bantu *ji,nuk* “go home”
Mande *kende* “go well”
Mangbetu *hi* “road”
PCS **si* “motion”, also **di, *ri, *li*

See following entry.
K = # **I = i** **(*IA = e)** ***D = d**

GO, MOVEMENT TOWARDS **Sumerian** *a, e_4* “towards”
PWS *g i, g ia* “go”
PWN *GWÌA* “go”, PWN *KUA* “go”
Bantu *ke* “go”, *k(a)* “go”
BANTU *GÈ.* “go”
“Bantu” *genda* “go”, *iza* “come”
Kongo *kwenda,* Ngala *kende,* Swahili *enda* “go”
Mande *kende* “go well”
Khoisan : Hatsa */kii* “this way”, Auen (N) */ke* “here”
PCS **-ayi, *-iya* “to go”

***G = #** ***A = a** ***K = #** ***IA = e**

GO **Sumerian** *rá* "to go"*(re$_7$, ri$_6$)*
PWS *là* "earth, ground" ?
Bantu (Johnston 1922: 535) *lāā* (16), *laba* (1), *laγa* (120), *la* (199), *ala* (204, 205) "go"
"Holoholo" *lah* "to flee", *lak'* "to march"
PCS *la* "motion"
Eastern Sudanic : Merarit *la* "to go" (elsewhere *lo*)
Chari-Nile: Lendu *ra* "to go"

***L = l** ****A = a**

GO ABOUT **Sumerian** *du-du* "go about"
PWS *lu* "knee", *(ru, du)*
PWS *DUI, LÚNKU, DÚNKU* "knee"
Bantu *du,* "come out'
Ngombe *duli* "knee", *dua* "come"
Mande *gyēru, dyēru* "to go'
PCS **lu* "motion"
Mangbetu *adrue* "to pursue"
Chari-Nile : Berta *kudu* "knee"
Afro-Asiatic : Chad : Gerka, Ankwe (1) *duk* "near"

***D = d** ***U = u**

GO ABOUT **Sumerian** *di-di* "go about"
See preceding.
PWS *lè* (from *lia), *(de, re)* "to be in a place" (hence "go")
PWN *DI* "to be", *LÙI* "go out'
Bantu *du,i* "knee"
Soko, Kele *lilwi* "knee"
PCS **andi, *li, *ri* "motion"
Mangbetu *ri* "animal, bird, (insect) [that moves]

***D = d** ***I = i**

GOING **Sumerian** *a-rá* "way of going"
PWS *là* "earth", "under"

PWN *LIAT, (LAT)* “tread”, PWN *DAD* “to crawl”
Bantu *diat* “tread on”
Bantu *jidá* “road”
Bantu *dai*, “long”
BANTU *DÀ* “long”
Mande *gyā, dyā* “long”
Mande *sīra, sīla* “road”
PCS **la* “motion”
Eastern-Sudanic: Merarit *la* “to go”, Tama *lo* “to go”, Masai *lo* “to go”
Chari-Nile: Lendu *ra* “to go”

***D = r** ***A = a**

GOAT **Sumerian** *maš*$_2$ “goat”
PWS *guò (guà)* “ram”
PWS *guání* “goat or sheep”, Agni *bwa* “sheep”, Baule *bwa* “sheep”, Afema *bwa* “sheep”, Ga *gban-ten.* “goat” [*bw* > *m*]
PWN *BÚDI, BUADI* “goat”
Soko *meme* “goat”
Linear A and B *MA* “sheep, goat” ? < **m-ba*
Mande *ba* “goat”, *bā-suru* “dwarf goat”
PCS **meme* “sheep, goat”

[The Sumerian has a nasal grade of PNC *ba “sheep, goat”. PWS *guò, guà, guáni* “sheep, goat” is from *g-ba (prefixed).]

****B = m** ***A = a** **S = š (**K = s)**

GOD **Sumerian** *diĝir* “god”
PWS *li (di)* “head”, PWS *ti* “head”, “roofing straw”, PWS *ni* “world”, PWS *g i* “world, sky”
Bantu *dim* “masculine”
PWS *ti* “black”
PWN *DIM, TIM* “darkness”
PWN *THITHUKA* “night”
Bantu *tiku* “night’
Bantu *dungu* “god” (intelligent)
PCS *d*i*, *d*i*b “person, man”

[The word refers to “head”, “sky”, “rain”, “darkness”, “masculine” etc. Cf L. Juppiter Pluvius, the Sky Father who rains.]

***D = d** ***I = i** ***NG = ĝ** ***I = i**

GOLD **Sumerian** *ku-sig*$_{17}$ “gold”, (metal)
PWS *kut* “iron”, Vai *kundu* “iron”, Animere *du-kutu* “iron”
Polyglotta : III, B : Adampe, Anfue, Hwida, Dahome, Mahi *sika* “gold”
“Holoholo” *kubó* “iron to forge”
Mande *sāni* “gold”
Mande *ku-nsigi* “hair” ?
Mande *sag.a-sĩ* “wool” ?

But S. *sig* means “yellow” (& “green” & “blue”)

***K = k** ***U = u** ***S = s** ***I = i**
***K = g**

GRASS **Sumerian** u_2 “grass”
PWS *pú* “plantation, field”
PWN *PUK, PUAK* “bark”
Bantu *cua* “grass” ?
“Holoholo” *butó* “sowing”
Mande *bi* “grass”
PWN *BI* “seed”

***P = #** ***U = u**

GREAT
PWS *ka* “chief, king”, *gán* “great, king” **Sumerian** *gal* “to be great”
PWS *gán* “big, king, topmost point”
PWN *KAKA* “grandfather or master”
Bantu *camba* “king”
Mande *gyã, dyã* “great”
PCS **kpa* “big”

***G = g** ***A = a**

GREAT **Sumerian** *nun* “big”
PWS *kuì* “big”
PWS *kuni* “husband” *(kunu)*
PWS *nu* “person, man” (men were big)
PWN *KÚL* “old”
PWN *KWUL* “be big”
Bantu *néne* “big”
Mande *kunu* “too big”

[Sumerian (like Maori *nui*) has a nasal grade of this word : probably reduplicated.]

***K = n** ***U = u** ***N = n**

HAIR **Sumerian** sig_2 “hair”
Luba-Lunda *şiki* “hair”, Kongo *suki* “hair”. The forms *sisi, şişi* are also common in Niger-Congo, along with *titi* which suggests “trees, plants”. The same word is used for “green”, “yellow”,“blue” which supports this explanation. Bantu *tik* “black”. “Hair” was “grass” on the head.

***T = s** ***I = i** ***K = g**

HAND **Sumerian** *šu...bar* “to release”

PWS *kù* “to dig” **Sumerian** *šu* “hand”
PWN *KUA* “seize” (action of hand)
Afro-Asiatic : Chad : Angas (1) *kul,* Musgu (7) *kule* “left hand” ; Cushitic : Saho (E) *gura,* Sidamo *gura:* “left hand” (Greenberg)
PWS *búá* “hand”, *(ba)* “arm”
PWN *BUAK* “arm”
Bantu *bóko* “arm”
“Holoholo” *bokó* “arm”
Mande *bolo* “arm”
Mangbetu *tekwo* “arm”
Old word *ku “left hand”

***K = š** ***U = u** ***B = b** ***A = a**

HE, SHE, IT, THIS **Sumerian** *e-ne* “he, she”
PWS *na* “this”, Nupe *a-na* “this”, Akpafu *ne* “this” **Sumerian** *ni* “he, she, it”
PWS *ni* “this” **Sumerian** *na* “human being”
Mande *ni* “this” **Sumerian** *ní* “man”
Mangbetu *na-* “possessive adjective” **Sumerian** *e* “he, she, it, this”
Mangbetu *na, ne, no* “article”, *a, e, o* “plural article”

***N = n** ***I = e** ***A = e**

HEAD **Sumerian** *saĝ* “head”
PWS *ka , kaka* “chief, king” (head of the tribe)
PWN *KAKA* “grandfather, master”
“Bantu” *khanda* “head” (67, *kanda* (75 & 76)
Bantu *(j)ami* ‘chief, head”
Kongo *nkaza* “husband”
Bangi, Lolo, Ngala, Poto *nkolo* “master”
Mande *gāna,* M *kāna* “war chief”
Afro-Asiatic : Chad : Hausa (1) *kay* “head”

***K = s** ***A = a** ***K = ĝ**

HEAR **Sumerian** *ĝiš...tuku* “hear”
PWS *tiè* “to hear”
PWN *THÚI, THÚ* “ear”, with Sumerian *ĝiš* “organ” (man?)
Bantu *túi,* “ear”
Kongo *kutu* “ear”
Mande *tolo,* M *tulu* “ear”

***T = t** ***U = u** ***K = k** ***U = u**

HEART **Sumerian** *šag$_4$*

PWS *gia* “blood”, Ewe *ka-dze* “blood”, Guang *obu-dza* “blood” (often with *dza*)
PCS **s* “heart”
PCS **za, *ja* “flesh, animal”
Bantu *DÀ* “intestines, abdomen”
“Holoholo” *la* “intestines”
Soko *nda* “stomach”
Swahili *damu* “blood”
“Bantu” : Nyanza *sagama* “blood”, Brit. East Africa *sakame*, Usagara-Ugogo *sakami* etc “blood” (Johnston 1922 : 257). This is probably the source of the Sumerian word. Unaccented final syllables have been lost.

[The *dz* reflex goes to *s* (devoiced). Compare L. *sacer* “sacred”].

***D = š** ***A = a** ***K = g**

HEAVEN **Sumerian** *u-na* “heaven”
“Bantu” *tuna* (273), *tuwana* (256), “sky” **Sumerian** *an* “heaven”
PWS *tùà, (tò)* “to roast” (of the sun)
Bantu *tu,mb* “to roast” (compare *utu* “the sun”)
Or PWS *tu, tua* “water” (rain from sky) ?
PWN *THU, THUA* “water place”
Bantu *to* “river”
Khoisan : Naron (C) */am, /gam* “on” ?
Afro-Asiatic : Chad : Hausa (1) *sama* “above”, Logone (2) *sama* “rain”, Mandara (6) *samaya* “sky” (Greenberg)

***T = #** ***U = u** ***N = n** ***A = a**

HERO **Sumerian** *nir-ĝal*$_2$ “prince, hero”
PWS *ni* “man”, Kele *ńī-r* “person”, Gba *ni-ri* “person”, + PWS *gán* “a hero, head man”.
PWN *NINTU (NITU)* “person, man”
PWN *GAN* “clan”
Bantu *ntu* “person”
[The final *l* is the article].

***N = n** ***I = i** ***G = ĝ** ***A = a**

HIS, HER, THIS **Sumerian** *a-ni* (*-ni* after vowels)
PWS *ni* “this”, Nupe *a-ni* “thus, so”
PWS *ní* “to be” (something, someone)
PWS *ni, nu* “person”, Wolof *nit* “man”, Konkomba *o-ni-r* “person”
“Holoholo” *nĭ* “who” ?
Mande *ni* “this”
Mangbetu *nine, ine* “that”

***N = n** ***I = i**

HOLD **Sumerian** *dab*$_5$ "to hold"
PWS *ta* "to hold"
Lolo *kita* "to hold"
PWS *ta* "hand", Temne *ka-ta* "hand"
Mande *dye, de* "to hold"
PWS *búá* "hand"
Bantu *bamb* "to hold"

***T = d** ***A = a** ***B = b**

HOLD **Sumerian** *lal (la*$_2$*)* "to hold, lift, carry"
Mande *lā-dye, dā-de* "to hold"
Mande *dye, de* "to hold", *lo, do* "to hold upright"
PWS *lá* "to make"
Bangi, Lolo, Ngala etc *kela* "to make"
Afro-Asiatic :chad : Kulung (8) *gulana* "on the left" (Greenberg)

***L = l** ***A = a** ***L = l**

HONEY **Sumerian** *lal*$_3$ "honey"
PWS *mua, mia* "sweet, honey", Dagomba *ma-l-sa* "to be sweet", Akpafu *mōa* "to be sweet".

[The second *l* of Sumerian *lal*$_3$ may be an article; the *la* is "mouth" as in VI Bamana, Djula, Malinke, Mende.] [Perhaps compare Latin *mel, mellis* "honey"].

"Bantu" (Johnston 1922 : 324) 73 *tlωli* (Becuana Transvaal), 250 *dω, lω* (Central Benue) "honey", *kalapa* (56b) "honey"
Swahili *asali* "honey" ?
Mande *li, di* "honey"
Mande *da* "mouth" [*d = l*].
PCS **l(el)* "sweet", PCS **la* "mouth"

***L = l** ***A = a** ***L = l**

HORN **Sumerian** *si* "horn"
PWS *kin* "needle", Gbari *a-tšĩ* "needle", Atjulo *k'i* "needle"
PWN *CÍN* "horn"
Bantu *cémbo, céngo* "horn"
Bangi, Ngala, Kele *liseke* "horn"
Ngombe *sosi* "needle", Swahili *sindano* "needle"
Togo R **li-céá/a-* "horn"

***K = s** ***I = i**

HOT **Sumerian** *kum*$_2$ "hot"
PWS *tùà* "to roast"
PWN *TUK* "be hot"
Bantu *tukut* "hot"

Bantu (Meinhof) *tûmba* “to roast”
Mande *guru* “hot”
ES Didinga *kor* “sun”, Nyangiya *tak* “burn”
CN Kunama *taku* “burn”,

***K = k** ***U = u**

HOUSE **Sumerian** e_2 , (*‘à*) “house”
PWS *kà, kàl* “to remain”
PWS *ka* “charcoal”
[PWS *kù, kùà*]
PWN *KA* “home”
Bantu *jái* “home”
Poto *mbuka* “home”, Bangi, Ngala *mboka* “home”
Mande M *su-kala* “habitation”
Mangbetu *eka* “to light fire”
ES Kenuzi, Dongola *ka* “house”, Nandi *ka* “house”
NS Kunama *ka* “house”

***K = #** ***A = e** ***A = a**

HOUSE **Sumerian** *tuš* “house, reside”

PWS *tù* “build”, Efik *tut* “to push”, Avatime *tutru* “to push”, Songhai *tu-ti* “to push”
PWS *tua* “to pound, to build”
PWN *TU (TUN)* “to build”
Kongo, Ngala, Poto *tunga* “build”
Mangbetu *atunga* “to begin”
PCS **tu* “tie” (of primitive huts) ?

***T = t** ***U = u** ***T = š**

HUGE **Sumerian** u_{18} “huge”
PWS *kuì* “big”
PWN *KÚ* “old”, *KWUL* “be big”
Bantu *kúdú* “old, adult”
Swahili *kubwa* “big”
“Holoholo” *kul’* “increase”
Mangbetu *kumu* “old person”
Mangbetu *kuno* “bird with long tail”
Mangbetu *ôu* “be abundant”, *au* “put a big quantity in a container”
PCS *tu* “old”

***K = #** ***U = u**

“I” **Sumerian** $ĝa_2$*-e* “I”
PWS *na* “I”, “this” (also “we”), *ni* “I” **Sumerian** *me* “we”
PWN *NI (INE)* “I, me”
Bantu *mi* “me”, Mende *nya.* “I”
“Holoholo” *iné* “moi seule”, *neenĕ* “moi” (pronoun)

Mande *ne, ni* “me”
Mangbetu *ne* “this”, “article”
Mangbetu *nga* “what ?” (adj interr)
Mangbetu *mê* “this individual” (sg or pl)
Mangbetu *ima* “moi”
Mangbetu *âma* “nous”
Mangbetu *aa* “our, ours”
Mangbetu *ana* “my, mine”
Mangbetu *nae* “our”
Mangbetu *nandra* “my”
Mangbetu *nga* “which ?”
PCS **ŋga* “foreigner” ?
ES Mahas, Fadidja *na, nai* “who ?”, Barea *na, nan,* Merarit *na* “who ?”, Nuer, Dinka, Anuak, Lango *ŋa* “who ?” etc
CN Kunama *na* “who, which ?” (Greenberg) (polyfunctional *na*)

“Bantu” (Johnston) Becuana-Transvaal *ñka* “I”, Cameroons-Cross River *ñga* “I”
Also (Johnston (1922 : 448) *ñgai, ñgaye, ñzewe* “I” (with *ye, we* from PWS *g i* “this”, “to be”).

***G = ĝ** ***A = a** ***E = e** ***M = m**
***M = #**

IN **Sumerian** *a* “in” (loc)
PWS *bia* “place”, Nupe *ba* “here”, Gbari *a-ba* “place”
PWS *ba* “to be in a place”
PWN *BA* “to be”
Bantu *bá* “to dwell”
Bantu *da* “inside, belly”
Mande *ra, la (na)* “in”
Mande M *ta* “in” (suffix)
Mangbetu *to, te, ta* “in”
Afro-Asiatic : Chad : Angas (1) *pe,* Montol (1) *bi,* Logone (3) *mba* “place” (Greenberg)

***B/R/L/D/N/T = #** ***T = # (probable)** ***A = a**

IN **Sumerian** *ni* “in” (dim.pref)
PWS *ni* “in”
Bantu *da* “inside, belly”
Swahili *–ni* “in”, Lolo, Kele *nda* “in” (< **nida*)
Mangbetu *oniere* “to tie together”
ES & CN elements (Greenberg 1963 : 113) “Locative plural in *–ni* , (2) Didinga *–ni,* Nuer *–ni, -na.*”

***N = n** ***I = i**

INUNDATION **Sumerian** *ra (-g/h)* “inundation”
PWN *BUDA* “rain”
Bantu *bú,da* “rain”
PWS *la, (da)* “day” (sky = rain)
PWS *gi* “firmament”
Gur **do* “sky”
Mangbetu *ro* “sky”
ES Afitti *araŋga* “rain”, Tama *ar* “sky, rain”, Dinka *uar* “river”, Lotuko *(na)are* “water”
CN Berta *ro*: “rain”,

CS Lendu *ra, arra* “sky”

***L = r** ***A = a** ***G = g/h**

INSECT **Sumerian** *uh* “insect, vermin”
PWS *(m)bu* “mosquito” (> *mu*)
PWN *PHUKI* “rat”, *BÚNE* “mosquito”
Bantu *puka* “insect”
Bantu **PÒKÁ* “insect”, **PÓKÒ* “rat”
Bantu *bubidi* “spider”

***B = #** ***U = u** ***K = h**

IS **Sumerian** *am₃* “is” (copula)
PWS *ba* “to be in a place”
PWN *BA* “to be”
Bantu *bá* “to be in a place”
Mande *bè* “to be” (copula)
Mande *mu* “to be” (copula)
PWS *má, mán* “to be accustomed”
ES Nile Nubian, Didinga, Bari, Masai, Nuer, Dinka *a* “to be”
ES Didinga *med* “to be sweet”
CS Mangbetu, Moru, Binga *a* “to be”
Mangbetu *me* “place”
Afro-Asiatic: Logone *mba* “place”

[The Sumerian has lost initial *b*, possibly after prenasalisation.]

***B = #** ***A = a** ***M = m** ***M = m**

ITS **Sumerian** *–bi* “its”
PWS *bi* “place”
Bantu *bi-* prefix = pronoun
“Holoholo” *bílí* “two” (pronoun)
Mande *mi* (after noun) “this, it”
Mangbetu *êpe* “to make change place”
Mangbetu *be* “frontier”
Afro-Asiatic : Chad : Montol *bi* “place”

***B = b** ***I = i**

JACKAL **Sumerian** *ur* “dog, wolf”, etc.
PWS *búá* “dog” ? **Sumerian** *udu* “sheep, small beast”
Bantu *budu* “jackal”
Bantu *bungu* “hyena”
“Holoholo” *bwă* “dog”, *bwabwá* “jackal”
Mande *suru* “hyena”
Togo R **o-kulí* “mouse”
Chad *kuri*-cattle
PWS *ku* “stomach”, Krao *kuli,* Plawi *kudi,* Abriwi *kuri* “stomach”

[Root **kuri* is used for edible quadrupeds. Dogs were eaten.]

***K = #** ***U = u** ***R = r** ***I = # ?**

JAR **Sumerian** *dug**ku-kur-du* “jar”
PWS *kua* “calabash”, “bowl”, PWS *kua, kual* “bag”
PWS *(ŋ)-gua, (ŋ)-guan-* “calabash, pot”
PWS *ku* “belly”
Bantu *gu,mo* “belly”
Mande *kusa* “stomach” (animals)
ES Acholi *kum* “body”
PWS *lu, (du)* “head”
Mangbetu *dru* “head”
Mangbetu *kundala* “big stomach”
PCS **kur, *kul* “gourd, pot”

[Jars were thought of as bodies.]

***K = k** ***U = u**

JUDGE **Sumerian** *di-kur*$_5$ “judge”
PWS *ku, kur* “old”, Adele *di-kuku-ba* “old” **Sumerian** *di* “verdict”
PWN *KÚ, KÚKU* “be old, ancestor”
Bantu *kuka* “ancestor”
Mande *koro* “old”
Mangbetu *kuku* “family”
PWS *li, (di)* “head”, *lì, (di)* “eat”, (then “speak”, action of head). [Latin *dico* “speak”].
Bantu *ded* “speak”
Mangbetu *olia* “to sing, bewitch”, *odio* “to speak”,
PCS **(e)nde* “speak”, **ti* “speak”

***K = k** ***U = u** ***R = r** ***D = d**
***I = i**

KILL **Sumerian** *gaz* “kill”
PWS *gan* “arrow” (*gian* “red”)
PWS *ka* “hand”
PWS *ka* “flesh”
PWS *kál* “soul”
PWS *gia* “blood”
PWN *CET, KET, KHANT* “cut”
PWN *KA* “hand”, *KÀL* “blood”
Bantu *ked, kat, kant* “cut”
Bangi *kete,* Swahili *kata* “cut”
“Holoholo” *kal’* “to cut”

Mande *ka* “to cut”
Mangbetu *ogo* “to cut”
PCS **ga* “cut”

***K = g** ***A = a** ***T = z**

KING **Sumerian** *lugal* “king”
PWS *lu* “head” (*du, ru)* + PWS *ka* “father, king” + *l* (article), PWS *lá* “the, he, agent nouns”.
PWS *gán* “big, chief”
PWN *(GHIDU)* “head”
PWN *GÀ, (GÀNA)* “hundred” (big number).
Mande *dugu-tigi* “chief of village”.
Mangbetu *dru* “head” , *dudu* “weak man”
ES Dongola, Kenuzi, Mahas, Gulfan *ur* “head”
CN Bertat *alu, kulu* “head”
PCS **d.u* “head”

***D = l** ***U = u** ***G = g** ***A = a**

KNEE **Sumerian** *dug$_3$* “knee”
PWS *lu* “knee”, Mossi *du-n-di* “knee”, Kposso *a-du-ku* “knee”, Ahlo *i-lu-ku* “knee”
PWN *DUI* “knee”, *LÚNKU, (DÚNKU)* “knee”
Bantu *du,(i)* “knee”
Mangbetu *dudu* “weak man”
ES Kundugr *kuttu* “knee”
CN Berta *kudu, kusu* “knee”

***D = d** ***U = u** ***K = g**

KNEE **Sumerian** *zag* “knee”
PWS *ta* “to go”
PWN *TAMB* “walk”
Bantu *tamb* “walk”
Mande *tā* “to go”
ES Dilling *kute* “knee”

[Sumerian *z* may be from *t/d*]

***T = z** ***A = a** ***G = g**

KNIFE **Sumerian** *ĝír* “knife, sword”
PWS *gi, gia* “to cut”, Tobote *gi* “to cut”, Akassele *gi* “to cut”
PWN *CET, KÉL, KET* “cut”
Bantu *ceng, ked, kek* “cut”
Mande *tegè, tigè, tekè tikè* “to cut”
Mangbetu *éki* “to pierce”
PCS **si, *sil* “to cut”

***G = ĝ** ***I = i** ***L = r**

KNOW **Sumerian** *zu* “to know”
PWS *tú* “to take” (ie apprehend, comprehend)
Zangian (Swahili) *dyua*, yua** “to know”, *ju** “to know”, S. W Africa *tsuea* “know”, Usagara-Ugogo *zua** “to know”.
PWS *tiè* “to hear”
PWN *THÚ* “ear”
Mande *dō* “to know”
Songhai *tu* “to wish”
Mangbetu *êtu* “to take” (apprehend)
Afro-Asiatic: Egyptian Coptic *swon* “to know” ?

***T = z** ***U = u**

LADY **Sumerian** *nin* “lady”
PWS *ni* “person”, PWS *ni* “mother”, PWS *kì* “woman” [**n-ki* > *ni*].
PWN *NINA, NINU* “mother”
PWN *NINTU, (NITU)* “person, man”
Bantu *ni, nina* “mother”
Mande M *si-nya-ni* “infant”
Mangbetu *nja* “female sexuality” ?
Mangbetu *ênie* “to nourish an infant”
PCS **nyo* “to eat”
PCS **ai* “drink” ?

[The second *n* of *nin* is probably due to reduplication, **nini,* with stress on the first syllable ; or from *nina* as in Bantu.]

***N = n** ***I = i** ***N = n**

LADY **Sumerian** *ga-ša-an, gašan*
PWN *KHÁL, (KHÁND)* “wife”
Bantu *kádí,* “woman”
Bantu (Johnston) *kaza* “wife”, *kari, kazi, kali, xasi* woman”, *kaşiana* “woman”
Kongo *nkento* “woman”, Kongo *nkaza* “wife”, Swahili *muke* “wife”
Gur **?an* “woman”
Mangbetu *ngado* “a young woman”
PCS **ko(N)* “woman”

***K = g** ***A = a** ***D = š** ***A = a**

LAMP **Sumerian** *búr* “lamp”

PWS *pu* “to appear” (sun)
PWN *PUM* “to come out”
Bantu *pup* “to be light” ?
Bantu *mudi-k* “give light” (nasal grade)
Bantu *mudi* “torch, bright”
Poto *mobulumi* “flame”
Mande M *wumbe* “fire”
Mangbetu *pu* “ashes”
Mangbetu *bu* “light of dawn”
PCS **pVl, *pVr* “light”
ES Barea *wor* “burn”

***B = b** ***U = u**

LAND **Sumerian** *kalam* “land”
PWS *kà, kàl* “to remain, to sit”
PWS *là* “earth, below”, Avatime *ká-la'*, Santrokofi *ka-la* “under, below”
PWN *KÀL* “to sit”
PWN *KHAN, (KHYAN)* “sand”
Swahili *kaa* “to sit”
Mande *ka-sa* “land”
PWS *là, (da)* “earth”, Santrokofi *ka-la* “under”

***K = k** ***A = a** ***L = l** ***A = a**

LAND **Sumerian** *ma-da* “land”
PWS *là* “earth, below”, Ewe *d.è* “to the ground”, Santrokofi *ka-la* “under”
PWS *lè, (de)* “to be in a place” **Sumerian** *dag* “place of repose”
PWS *la, (d.a)* “to lie down”
PWN *DÁD, (DÁl)* “to lie down”
PWN *DAD* “to crawl, or spread”
Bantu *da* “inside” (belly)
Mande *dā* “terrain”
Songhai: Gao *dau*, Timbuktu *dow* “dust”
Chari-Nile: Teso *adayi* “dust”

[The *ma* is a mass prefix].

***D = d** ***A = a**

LEAVE, ABANDON **Sumerian** tag_4 “to leave, abandon”
PWS *tá* (+ Nasal) “to finish”
PWN *TAMB* “to travel”
Bantu *ti,g* “to leave”
Swahili *aga* “to leave”
Cameroons-Cross River *daha** “to leave”, Swahili *aca*, ata** “to leave”

Mande *tu* “to leave”
Mangbetu *ésia* “to leave”
PCS **tei* “motion”

***T = t** ***A = a** ***G = g**

LIE **Sumerian** *uš$_2$* “lie”
PWS *bù* “bow down” etc, Tschi *butu-w* “turn upside down”, Ga *butu* “to overthrow”
PWN *BU, BUT* “bow down, crouch”
Bantu *but* “lie down”
Mande *suru* “to stoop”
Mangbetu *bu* “corpse”
Mangbetu *buru* “on the ground”
Mangbetu *pu* “ashes”
PCS **pu, *bu* “earth, dust”
PCS **vuru* “earth, mud”
ES Dongola, Kenuzi *bu* “lie down”
CS Mangbutu *ubu, abu* “to sleep”, Efe *abuabu* “sleep”, Lese *(k)abu* “sleep” (Greenberg)

[Initial loss of *b*, common in Sumerian : *t* > *š*]

***B = #** ***U = u** ***T =š** ***U = u ?**

LIFE **Sumerian** *nam-til$_3$* “life” *(tila$_2$)*
PWS *na* “this”, *nà* “to be”
PWS *tí* “tree” (“tree of life”)
Bantu *ti* “tree”
Makere (Nilo-Saharan) *na do* “fillet” (The *na* is an article)
Mande (Delafosse 1929) *di* “life”
Mangbetu *na* “article”

[Niger-Congo *na* is a demonstrative article, used in Sumerian with *-m* to form abstract nouns].

[See the following entries].

***T = t** ***I = i** ***L = l**
***N = n** ***A = a**

LIFE **Sumerian** *zi(g), (ši)* “life”
PWS *tí* “tree”
PWN *TÍ* “tree”
Bantu *ti* “tree”
Kongo *nti* “tree”, Swahili *mti* “tree”
Mande *yiri*, B *dyiri* “tree”
Mangbetu *ti* “trunk, origin”
PWS *gia* “blood”, *gi* “to be in a place”
PWN *GHI (GHIM)* “be alive”
Ngombe *di* “to live”
(Compare NC (PWS) *di “eat”, *di “be”, PWN *DI* “eat”, “be”)

***T = z** ***I = i** ***G = g**

LIFE **Sumerian** *ti,tin, til, tila*$_3$ “life”
PWS *tí* “tree” (tree of life) **Sumerian** *^{giš}tir* “forest”
PWN *TÍ* “tree”
Bantu *tí* “tree”, *tima* “liver”
Kongo *nti* “tree”, Swahili *mti* “tree”, *ini* “liver”
Mande *yiri,* B *dyiri* “tree”
Mangbetu *ti* “trunk, origin”
Ngombe *di* “to live”
(Compare NC (PWS) *di “eat”, *di “be”, PWN *DI* “eat”, “be”)

[The - *l* is an article.] [Ancestors lived in trees.]

***T = t** ***I = i** ***R = r**

LIGHT **Sumerian** *ra* “light”
PWS *la* “day”, *d.a* “day”
Bantu *tango* “sun” ?
PNC *la, ra “sun, day”, Barambo *ora* “day” (daylight)
Dyula *la* “day, sun”, Gã *la* “fire”, Abe *la* “fire”, Dagari *da* “day, sun” (Greenberg)
Egyptian *ra* “sun”
Mande (Delafosse 1929) *lā, dā* “day”
PWN *DÌNÁ* “fire”
Mangbetu *tiane* “day” (loss of *n*) ?
CS Kreish *kadda,* Bagirmi *kada* “sun, day”, Mangbutu *kora* “day”
CN Didinga *kor* “sun”, Dinka *ako,l* “sun”, Bari *ko,lo,ŋ,* Turkana *ekoloŋ* “sun” (Greenberg)

[“sun, day and fire” have the same etymology]

***L = r** ***A = a**

LIGHT, LAMP **Sumerian** *búr* “light, lamp”
PWN *PHÚN* “to blow”
“Bantu” *–ωmu* “fire” (195), but *bu, bi* (259, 267, 187, 184, *buri* 121, 222 etc), without nasalisation of *b* to *m.* See LAMP.

***B = b** ***U = u** ***N = n ?**

LIKE **Sumerian** *gin*$_7$ “like” (*kin*)
PWS *gi, gia* “to be” **Sumerian** *gim (kim)* “similar”
PWS *kia* “to make” **Sumerian** *gim, kim* “make”
PWN *GHI, (GHIM)* “be alive”
Bantu *kit* “do”, *gid* “act”
Bangi, Lolo, Ngala etc. *kela* “to make”
Mande *kè* “make”

Mande *ni* “to live”
Mangbetu *ehi* “to produce”
Mangbetu *ai* “to resemble”
Afro-Asiatic : Semitic : Akkadian *ki:* “like”

[“made in the image of ”]

***K = g** ***I = i** ***N = n** ***M = m**

LINEN **Sumerian** *gada* “linen”
PWS *gá* “put on clothes”
PWS *kà* “Rohrgras” (originally worn as clothes)
PWS *ká* “to cut”
PWN *KHANT* “cut”
Bantu *kándá* “cloth”
Bantu (Johnston) *kanda, kan, gan* “cloth”
“Holoholo” *kal’* “to cut”
Mande *korõ* “cotton”
PCS **ga* “cut”

***K = g** ***A = a** ***T = d** ***A = a**

LITTLE **Sumerian** *tur* “small, young”
PWN *TITUA* “little” **Sumerian** *tur-tur* “the little ones”
Bantu *toó (toó)* “little”
Bantu *mu-toto* “child”
Bantu (Guthrie) *tu-* “small prefix”
“Holoholo” *twă* “pygmy”
Mande M *kutu* “short”
Mangbetu *totolo* “small bird”, *toto* “small fly”
PCS **tu* “short”
ES Nile Nubian *to:d, tu:nyi* “child”, *-to:d* (diminutive suffix), Nuer *to,t* “small” (Greenberg)

***T = t** ***U = u**

LIVE **Sumerian** *til₃ (ti)* “to live”
PWS *ti* “tree”
See under LIFE

LIVER **Sumerian** *ur₅* “liver”, “heart”
PWS *ku* “stomach”, Bulom *kur* “belly”, Ada *(mu-) kuli* “belly”, Grebo *kudi* “stomach, inside”
PWN *KWOL* “heart”, *KWUNA* “navel”
“Bantu” (Johnston 1922: 318) *culu, şulu* “heart” (129a).
“Bantu” (Johnston 1922: 254) *kur, ihuri, kulu* “belly, bowels”
Mande (Delafosse 1929) *su* “liver”, *kūrā* “sickness of the liver”
Mangbetu *kubia* “liver”

***K = #** ***U = u** ***R = r** ***I = #**

LONG **Sumerian** *gid₂* “long”
PWS *gí, gia,* “to go” (a long way, far) **Sumerian** *ĝiš ĝidru* “baton, sceptre”
“Bantu” *ye, yeya* (13) “long, far” **Sumerian** *gi* “reed, length measure”

Mande (Delafosse 1929) *gyā* “to be long”
Mande *kè* “go”
PWN *GWÌA* “go”, *JI* “come from”
Bantu *gi, (k)a* “to go”
Bantu *jidá* “road”
PCS **kpa* “big, long”
PWS *guà* “much”
PWS *kia* “to go”
Mangbetu *ôké* “to go up”
PCS **osV* “motion”

***K = g** ***I = i** ***D = d** ***A = #**

LONG **Sumerian** *sud$_4$ (su$_{13}$)* “to be long”
PWS *kuì* “big”, Bulom *a-kpil* “many”
PWN *KÚ, KÚKU* “old, ancestor”
Bantu *kúdú* “big, adult”
Swahili *kubwa* “big”
“Holoholo” *kul’* “to become big”, *kulú* “old”
Northwest Zambezi *suku, kucu, sika** “long”, Cameroons-Cross River *kuri**, Wu-Nyamwezi *gulu** “long”, South Sierra Leone *şul* “long” [Alternation of *l/r/d*].
Mande *kunu* “long” (garment)
Afro-Asiatic: Chad: Podokwo (3) *guda,* Cushitic: Galla (E) *guda* “many”

***K = s** ***U = u** ***L = d**

LORD, PRIEST, PRIESTESS **Sumerian** *en* “lord, priest”
PWS *ni, nu* “person”, *ni* “this”, *na* “that” **Sumerian** *e-ne* “he, she”
Yoruba *e̲-ni* “person”, Adele *é̲-ní* “person”
“Bantu” (Johnston 1922: 343) *num, rum, nim,* “man”, *nū* “man”
Bantu *ntu* “person”
Bantu *camba* “king”
PWS *ní* “to be someone”
“Holoholo” *kand’* “to prohibit”
Mande *mā-ni* “seigneur”
Mande *ta-na* “prohibit”
Mande *o* (precedes), *ni* (follows) “this”
Mande *mā-nya-sa-ya* “power”
Mangbetu *kana* “one” (the one) (cf *–na* “that”)
Mangbetu *ania* “to visit, see” (the god ?)
Mangbetu *onie* “have power, sovereignty”

[The etymology is unclear].

***N = n** ***I = (e)**

LOUSE **Sumerian** *uḫ* “louse”
PWS *(m) bu* “mosquito”
PWS *BÚNE* “mosquito”

PWS *BUNK* “worm”
Bantu *bu* “mosquito”
Bantu *bungu* “worm”

[Sumerian initial *b* gives #.] [The *h* may be from *nk*]

***B = #** ***U = u** ***K = h**

MAKE **Sumerian** *ma* “do”
PNC *ma “make, fashion” (after Armstrong)
PWS *má, mán* “accustomed, continued action”,
PWS *ma, man* “to finish”
PWN *MAL* “to finish”, “be finished”
Bantu *mad* “finish”
Mande *bā* “to finish” (the *m* is a nasal grade of *b*)
PWN *BUAK* “arm”
Bantu *bóko* “arm” (finishing is an action of the arm)

***M = m** ***A = a** **(**B = *M)**

MAKE **Sumerian** *dím* “to make”
PWS *li* “to dig” (*d.i*), *lì* “to eat” (with hand), *lim* “to put out fire” (*dim*), action of hand.
PWN *DI* “to eat”, *DÍ , DIO* “right hand”, *DIM* “extinguish”
PWN *LÍMA* “tongue” (thought of as hand)
Bantu *dío* “right hand”
Bantu *dinga* “ring” (worn on right hand)
Mande M *tiké* “hand”
Mangbetu *–di* “various actions”
ES Mahas, Fadidja *eddi* “hand”
ES Kenuzi, Gondola *id* “man”

***D = d** ***I = i** ***M = m**

MAKE **Sumerian** *aka* “make”
PWS *ka* “hand”, “open”
PWN *KA* “hand, arm”
PWN *KHANT* “cut” (off)
Bantu *ka* “hand”
Bantu *gado* “arm”
Bantu *kat, kant* “cut”
“Holoholo” *kal’* “to cut”, *ha* “to give”
Gur **ŋa* “make”
Mande *kè* “to make”
Mande *tigè, tikè* etc “cut”
Mangbetu *ogo* “cut”
Mangbetu *ga* “horn”
PCS **ga* “cut”

Compare Maori *whaka* “make” [from *baka].

***K = k** ***A = a**

MALE BIRD **Sumerian** u_5 “male bird”
PNC *ku “bird”
PWS *ku* “male”, PWS *kuni* “husband”, PWS *kuì* “big” **Sumerian** *ḫu* “bird”
Various birds in WS have the morph *ku*.
Bantu *kúdú* “big, adult”
Bantu *(j)uni,* “bird”
Kongo *nuni* “bird” (*nuni* < *n-kuni*).
Mande M *kunu* “bird”
Mangbetu *kupipi* “kind of bird”
PCS **kpa* “big”

[A lost prefix *n* has induced *ḫ*].

***K = #** ***U = u** ***K = ḫ** ***U =u**

MAN **Sumerian** *nitah, ni* “man”
PWS *ni,* Wolof *nit* “man”
PWN *NINTU, NITU* “man”
Bantu *–ini,* “master”, “owner”
Swahili *mtu* “man”
“Holoholo” *ntu* “man”
“Holoholo” *nĭ, ,baanĭ,* “who”

[Afro-Asiatic (Ehret): Cushitic: EC: Soomaali – II, *zat “person” (stem + *t [n. suff.]) perhaps explains the *–tah.* Sumerian has *tab* “companion”, and *da* “arm, to be at the side of, to protect” however, which may be a better explanation.] [Greek *a-ne-ros, a-n-d-ros* (genit.) “man” is prefixed and suffixed.]

***N = n** ***I = i** ***T = t**

MAN **Sumerian** *mulu* “man”
PWS *lu* “head”
PWN *TÚI* “head”
Bangi *mutu* “head”
Kongo *muntu* “man”, Ngala, Poto, Ngombe *motu* “man”, Swahili *mtu* “man”

[Prefix *mu- ?* Bantu *tu* means “head”].

***L = l** ***U = u** ***M = m** ***U = u**

MAN, WOMAN **Sumerian** *mu*,(*mulu, munus*)
“Bantu” (Johnston 1922: 343) *mui* “man” **Sumerian** mu_{10} “woman”

"Bantu" (Johnston 1922: 418) *ωmuntu* "woman"
PWS *nu, ni* "person"
PWN *NINTU (NITU)* "person, man"
"Mande" M *musu* "woman"
Afro-Asiatic : Chad : Musgu *muni* "woman"

***M = m** ***U = u**

MAN
PWS *nu* "person", "man"
PWS *ti* "head"
PWN *NINTU, (NITU)* "person, man"
Bantu *túe* "head"

Sumerian *nu* "man"
Sumerian *nu* "statue"
Sumerian *nun* "prince"

[Nasal grade of **tu* "head"]

***N = n** ***U = u**

MAN

PWS *bá, bábá* "father", "king", "chief"
PWS *–ba* "they", PWS *–ba* "someone"
PWN *BA* "they", PWN *BHÀBHÁ* "father, grandfather"
Bantu *baba* "grandfather, father"
"Holoholo" *baanĭ,* "who"
Mande *fa-fa* "grandfather"
CN Kunama *aba* "man"
CS Lendu *ba* "man"
ES Lotuko *(x)aba* "man"

Sumerian *pab* "father, brother, man, chief" (*pap*)

***B = p** ***A = a** ***B = b** ***A = #**

MANY
PWS *ta* "hand"
PWS *tá* "to count",
PWS *tà* "spread out" ?, Efik *tara* "spread out"
PWS *TÀND* "extend"
Bantu *tad* "count"
Bantu *tamb-ad* "be wide"
"Bantu" (Johnston 1922 : 435) *tala, tarara* "great"
Afro-Asiatic: Chad : Podokwo (3) *guda* "many", Cushitic : Galla *guda* "many" (Greenberg)

Sumerian *šar*$_2$ "many"

[loss of first syllable in A-A ?]

***T = š** ***A = a** ***R = r** ***A = #**

MARRY
PWS *tú, tí* "to take", Avatime *tuku* "to take", Nyangbo *tuku* "to take"
PWS *TUT* "carry"
PWS *THU, (THUD, THUK)* "carry" (on head)

Sumerian *tuku* "have, take, marry"

Bantu *tú-ad* “to take, fetch”
Mangbetu *êtu* “to take for oneself”

***T = t** ***U = u** ***K = k** ***U = u**

ME,MY, MINE **Sumerian** *ĝu*$_{10}$
PWS *kù* “companion, accompany, with, and” may be relevant as may PWS *kúá* “person, slave” etc.
The concept “I” may be expressed as “this person”, “your humble servant” etc.
Johnston (1911 : 32) has *ñgu* “I”, *ñgi* “me”, *ñgu* “my”
Westermann has PWS *g̲u* “he”
Bantu *ɣyu, ɣu* (conj. pron. 3rd pers. sg, class 1) Westermann after Meinhof.

[Same pronouns for different persons.] [Preceding *ni-* “person”, “this”]
[Perhaps from PWS *kú* “accompany” (prefixed).]
[Compare PWS *kúá* “person slave” (with article ?), *ku* “big, male”, voiced by preceding *ŋ*]

***G = ĝ** ***U = u**

MEAL **Sumerian** *zí, zi-da* (*zìd*) “meal”
PWS *li, (di)* “to eat”
PWS *la (da)* “mouth”
PWN *DI* “to eat”
PWN *LAK* “jaw”
Bantu *dí* “eat”
Bantu *degi,* “sorghum”
Bantu *dáad-id* “evening meal”
Mande *da* “mouth”
Mangbetu *tikwo* “mouth”
PCS **ai* “drink” ? (drinking = eating)
PCS **la* “mouth”
Afro-Asiatic : Chad : Bolewa (1) *ti,*Bana (8) *ti(na),* Mubi *tiya* “food”; Cushitic : Janjero (W) *ta?* “food”

***D = z** ***I = I** ***D = d**

MIGHTY, TO BE **Sumerian** *kalag (kala)* “be mighty”
PWS *ka* “hand”
PWS *gán* “big’
PWN *KA, (KYA)* “hand”
PWN *GÀ* “hundred”
Bantu *kod* “be strong”

Indiki *ne-kara* “hand”
Ngala *nkasu* “strong”
Mande *bar’ ka-le* “strong”
Mangbetu *kwakwara* “strong”
PCS **kpa, *gba* “hard”

***K = k** ***A = a** ***L = l** ***A = a**

MILK **Sumerian** *ga* “milk”
PWS *ka* (+ Nasal) “press, milk”
PWN *KAM* “squeeze” (out)
Bantu *kand* “press”, *kám* “squeeze out”
Soko *hamele* “milk”
Mande *kekè* “premier milk”
ES Dinka *ca,* Nuer, Shilluk *cak* “milk”

***K = g** ***A = a**

MIX **Sumerian** *<u>h</u>i* “to mix”
PWS *kú* “to join, unite”
Mande *kòlō,* M *kul<u>u</u>, kūri* “to mix”
PWS *kia* “to make”
PWN *KIT* “to end”
Bantu *kít, gid* “to do”
Mande *kè* “to make”
Mangbetu *éki* “to introduce”
Mangbetu *éhi* “to cause to move”
Mangbetu *ose* “to mix”

***K = <u>h</u>** ***I = i**

MONTH **Sumerian** *iti* “month, moon”
PWS “open, middle, small” (small part of year) “moonlight”
PWN *TI, TITI* “middle” (moon waxes & wanes)
Bantu *kati* “middle” *(id_4, id_2, it_4, itid, itu, itud)*
Ngala *–ti* “little”
“Holoholo” *esi,* “month, moon” **Sumerian** *utu* “sun”
Mande B *t’ya-ya* “increase”
Mangbetu *osi* “to increase”
Mangbetu *ôtu* “increase”
Mangbetu *tulu* “star” (little sun”)
ES Modob *ussi* “fire”
CS Madi *asi*, Lega *kasi* “fire”
PWN *DÌNÁ* “fire”
Bantu *dido* “fire”
Bantu *tí,ku, tú,ku* “night” (referring to moon, stars)

Mangbetu *osi* “increase”
Afro-Asiatic : Chad : Ngizim (1) *tira* “moon”, Sarwa *tile* “moon”

***T = t** ***I = i** ***D = d** ***U = u**

MOON
PWS *tùà* “to roast” + *sakar$_3$*.
PWS *gia* “blood”, PWS *gian* “red or yellow” (> *sa*), Compare Johnston (1922: 257) *ságama* “blood”, *sakami* “blood” etc.
PWS *KÀL* “blood”
Bantu *tund* “grow”
Bantu *dumbu* “yellowish”
Bantu *gi,dá, gadi,* “blood” (reversed)
Bantu *canj,* “moon”
Kongo *kula* “grow”, Ngala *ula* “to grow”, Swahili *kua* “to grow”
Ngala *sanja* “moon”
Mande D *kāri* “moon”

Sumerian *ud-sakar$_3$* “moon”
Sumerian *sa$_5$* “blood”

See previous entry.

***K = s** ***A = a** ***K = k** ***A = a**

MOON
PWS *tùà* “to bake, roast”
PWN *TUK* “to boil, to be hot”
Bantu (Meinhof) *tûmba* “to roast”
Bantu *túku* “day”
Ngala *butu* “day”, Poto *utu* “day”
Mande *su-soŕo* “sun” (rising)
Mangbetu *osu* “to burn”
Mangbetu *tulu* “star” (little sun)
Mangbetu *tuné* “day” (sun, fire)

Sumerian *^{d}suena* “the moon” (EN.ZU)
Sumerian *utu* “sun”

***T = s** ***U = u**

MOTHER
PWS *má* “mother”, Indiki *a-ma* “mother” etc.
PWN *MÀ, MÀMA* “mother”
Bantu *maamá* “my mother”
[Bantu has *nina* “his mother”]
Mande *ma* “mother”
Mangbetu *mama* “grandmother”

Sumerian *ama* “mother”

***M = m** ***A = a**

MOUNTAIN
PWS *kuì* “big, much”

Sumerian *kur* “mountain, foreign”

PWS *ku* “stomach”, Abriwi *kuri* “stomach” ?
PWN *KÚ (KÚK)* “heap”
Niger-Congo root *KU* “grow, increase”
“Holoholo” *gulu* “mountain”
Mande *kulu, kuru,* M *kutu* “mountain”
Mangbetu *hôlo* “hill”

***K = k** ***U = u** ***R = r** ***U = #**

MOUNTAIN

Sumerian *<u>h</u>ur-saĝ* “mountain”
Sumerian *kur* “mountain”
(+ *saĝ* “head”)

PWS *ku* “stomach”
PWN *KHUM* “swell”
PWN *KWUL* “be big”
PWN *KWUNA* “navel”
Mande *kuru* “mountain”
Mangbetu *holo* “hill”

***K = <u>h</u>** ***U = u** ***R = r** ***U = #**

MOUTH

Sumerian *ka, ka-ka* “mouth”
Sumerian *ka* “gate”

PWS *ka* “to open”, (“to bite”, “to speak”)
PWS *<u>g</u>ia* “to speak”
PWN *KAN* “deny”
Bantu *gamb* “to speak”, Bantu *jad* “give advice”
Mande M *ga, ka-nã* “shelter” (“mouth of cave etc”)
Khoisan : !O!Kung (N) *ka* “speak”
Mangbetu *oka* “to bite”

***K = k** ***A = a**

NAME

Sumerian *mu* “name”
Sumerian *mu$_7$* “to cry out”

PWS *mumu* “dumb”
PWN *MUM* “to close the mouth”
Bantu *bubu* “dumb”
Bantu *tambud* “to quote a name”
Ngala *nkumbu* “name”
(Johnston 1922 : 354) 127 *kumu* “name”, 51 *gamu* “name”, 207 *iū* “name”
Mande *gya-mu, dya-mu* “name” (of family, of nobility)
Afro-Asiatic : Cushitic : Hadiya (E) *sum* “name”; Chad : Somrai (9) *sumo* “name”

[The syllable *mu* is used in many languages of whispering, speaking under one’s breath. Compare English *mutter, murmur* etc. A person’s name might be taboo, to be uttered in a whisper.]

***M = m** ***U = u**

NECK

Sumerian *gu$_2$* “neck”

PWS *kua* “neck”

Limba *kọní, n.-kọntí* “neck”
PWN *KWÀNT* “nape of neck”
Bantu *kí,ngó*
Bantu *koti,* “nape of neck”
Kongo *nsingu”* neck”, Poto *nkingu* “neck”
Mande *kã* “neck”
“Holoholo” *kujă* “bone”
Mangbetu *kurukwo* “neck” (also *kôrôkwo*)
PCS **kVmbV* “neck”

***K = g** ***U = u**

NIGHT
PWS *g ì* “black”
PWN *DUA* “night”
PWN *DIM, TIM* “dark”
Bantu *du* “black”, *jí,d-o* “dark”
TogoR *-cíne “night”
“Bantu” (Johnston 1922: 356) *sigi* “night”
“Holoholo” *gi,bi,* “thief” (in the night?), but *gi* means “go”.
“Holoholo” *unkĭ,* “smoke”
Mangbetu *kini* “night”
Mangbetu *biti* “black night”
PCS **ini* “black”
Afro-Asiatic : Chad : Buduma (2) *tsillim,* Sokoro *silim* “black” ?

Sumerian *ĝi$_6$, gi$_6$* “night, black”
Sumerian *ĝig, gig* “night, black”

***G = ĝ** ***I = i** ***G = g**

NINE
PWS *nú* “five”, Guang *nĩ* “five” (dial.)
PWS *nú* “hand”, Kandjaga *ní-* “hand”
PWS *ni* “four” > *li* , Yoruba *ẹ-rĩ* “four”.

Sumerian *ilimmu* “nine”
Sumerian *limmu* “four”
Sumerian *i$_4$ (ía)* “five”

[I take Sumerian *limmu* “four” from **linimu,* compare Nyangbo *é-lê* “four”]

[5 + 4 = 9]

*** N = #** ***I = i** ***N = m (assimilation)** ***I = #**
***M = m**

NOSE
PWS *nyu- (+ a)* “nose”
Bantu *(j)údu* “nose”
Lolo *jici* “smell”
“Bantu” (Johnston 1922: 357) *huri* “nose”,
Mande *yiri* “tree” ?
Mangbetu *kire* “tree” ?

Sumerian *kiri$_4$* “nose”

[The old Niger-Congo & Nilo-Saharan root *ki “see”, PWS *kià* “become visible”, Bantu (Stewart) *ki* “to dawn”, Eastern Sudanic *ki,* Fur *agil,* Koma (Chiita) *gil* (Greenberg), Djola, Pepel *–kil* “eye”

(Westermann, Atlantic), Longarim *gini* (Chari-Nile), Nandi *kere* “see” (Ch-N), [PPN *kite “see, appear, know”], is a perception word, and tends to cross sensory boundaries, giving “smell” in Sumerian. Hebrew has *hinn-* “behold”. Chad : Klesem *siŋ,* Sukur *šin* “nose, smell” may be related, with *k* > *s.* A very old word. The suffix *–ri* occurs in Chari-Nile etc. Compare the forms with *–l.*].

***K = k** ***I = i** ***L = r**

NOT **Sumerian** *nu* “not”
PWS *nú* “hand”
Luba-Lunda (Johnston 1922 : 518) 110 *nu,* 109 *una* “not”
“Bantu” (Johnston 1922: 317) *nu* (257) “hand”
Mande *nti, nte* “not” (uncertain vowel)
Mande *nū-mā-bolo* “left hand ”

***N = n** ***U = u**

NOT **Sumerian** *na, nam* “not”
PWS *na* “not”
PWS *ta* “hand”, *ta* “not”, (*n-ta* > *na* “not”)
Mande *nte* “not” (also *nti*)
Songhai *maná* “not”
PWS *ma, man* “to finish”
PWN *MAL* “to finish”
Bantu *mad* “to finish”

***N = n** ***A = a** ***M = m**

NOT **Sumerian** *bara* “vetitive”
PWS *búá, (ba)* “hand, arm”
PWS *bà* “broad, flat”, Efik *bara* “to be broad”, Dagomba *bara* “thick, big”
PWN *BUAK* “arm”
Bantu *bóko* “arm”
Bangi, Ngala *loboko* “arm”
Mande *bolo* “arm”

[The hand is held up extended as a sign meaning “no”].

***B = b** ***A = a** ***R = r** ***A = a**

NOT **Sumerian** *la* “not”
“Bantu” (Johnston 1922: 518) *la* “not” (17, 27, 92, 94, 120, 160, 162 226, 257, 274)
“Bantu” (Johnston 1922: 316) *ala, zala, U-ala* “hand”

Chari-Nile: Tornasi *ola* “head” (nodding indicates “no”). ?

***L = l** ***A = a**

OF **Sumerian** *ak* “of”
Mande *ka* (suffix) (Delafosse 1929: 429).
PWS *ka* “and, that” (conjunctive particle).
PWN *KA* “hand, arm”
Bantu *ka* “hand”

***K = k** ***A = #**

OF, TOWARDS, FOR **Sumerian** *ta* “of” etc
PWS *ta* “hand”
PWN *TAMB* “walk, travel”
Bantu *tamb* “walk”
Kongo *diata* “walk”, Bangi *tambola* “walk”
Mande *tā* “to go”
Mangbetu *oda* “to go in advance”

***T = t** ***A = a**

OIL, FAT **Sumerian** i_3 “oil, fat”
PWS *mi* “fat, oil”
PTR (Heine 1968) **-nómi* “oil”
PWS *mì* “to suck”
PWS *mi* “within”, Nupe *ni-mi* “within”
PWS *ni* “inside”
PWS *ni* “to drink”
Ngombe *muni* “oil”, Soko *haina* “oil”, Kele *baita* “oil”
Afro-Asiatic : Chad : Hausa (1) *may* “oil”

***M = #** ***I = i** **or** ***N = #** ***I = i**

OLD WOMAN **Sumerian** *um, (umu)* “old woman”
PWS *ku* “old” + S. mu_{10} “woman” **Sumerian** *um-ma* “old lady”
PWN *KÚ* “old”
Mande *koro ma* “old”
PWS *ma* “mother”
PWN *MÀ* “mother, grandmother”
Bantu *maamá* “my mother”
Mande *ma* “mother”
Mangbetu *kumu* “old man”
Afro-Asiatic : Chad : *muni* “woman”

***K = k** ***U = u** ***M = m** ***U = u**
***M = m** ***A = a**

ONE **Sumerian** *aš* “one”
PWN *mot* “one” **Sumerian** *maš* “one” (half)
“Bantu” (Johnson 1919: 32) *mω* “one”
Bantu *moi,* “one”

Kongo *mosi* “one”, Soko *moi* “one”, Swahili *moya* “one”
“Holoholo” *mŏ* “one” (pronoun)
Mangbetu *ma* “originality”, *oma* “to assemble”

[Sumerian has lost the initial *m* and has changed *t* to *š*]

***M = #** ***A = a** ***T = š**

ONE
PWS *lé, (dé, dó)* “one”
PWS *li,(di), lu* “head”, Yoruba *o-ri, o-li* “head” (one head)
Bantu *ding* “be equal”
Mangbetu *dê* “equal”
ES Barea *doko, toko* “one”

Sumerian *diš* “one”
Sumerian *deš, dil, dili* “one”
Sumerian *dù* “totality”

[These words are based on words for “head”, *di, du*].

D = d** * I = i**

OX
PWS *ku* “big” (male, animal)
PWS *kuni* “male, man, husband”
PWS *kuì* “big”
Bantu *jeku* “bull”
Bantu *kúdú* “adult”
Mande *kunu* “big” (garment)

Sumerian *gud, gu$_4$* “ox”

[Men were regarded as “big”, woman “small” .The final *d* in Sumerian may be for PWS *li, di* “cow”].
[But Bantu has *gud* “barter”, oxen being a form of money.]

***K = g** ***U = u** ***D = d**

OX, WILD
PWS *na* “cow”, “bull”, Alagiang *nama* “cow”
PWS *kama* “elephant” may be relevant (horns)
PWN *NAM* “animal, meat”
Bantu *(ny)ama* “animal, meat”
Lolo, Ngala, Poto, Soko, Kele, Swahili *nyama* “animal”
Mande M *ku-nyã* “animal”
Mande *gama* “ox with hump” (also *da-ma*)
Mangbetu *gambogu* “male pig”

Sumerian *am, ama* “wild ox”

***D = #** ***A = a** ***M = m** ***A = a**
***G = #** ***N = #**

PERSON, MAN **Sumerian** *lu₂* “person, man”
PWS *li, lu* “head”, PWS *lu, li* “cow, antelope”
PWN *DUG* “tribe”
Bantu *dúme* “husband”, *dungu* “white man”
Bantu *di,* “tribe”
Mande *lū-tigi* “head of family” (*lū* “family”, *dū* “family”)
Mangbetu *dru* “head”, *dudu* “weak man”
PCS **d.u* “head”

***L = l** ***U = u**

PLACE, EARTH **Sumerian** *ki* “place, earth”
PWS *g i* “to be in a place”
PWS *kí* “to remain”
PWN *KI (KYI,CI)* “village, settlement”
Bantu *cí* “earth”
Mangbetu *gi* “river bank” ?

***K = k** ***I = i**

PLACE, TO **Sumerian** *ĝar* “to place”
PWS *gà* “place”, Mende *ga-ma* “towards”
PWS *gua* “hand”
PWS *ka* “hand”, Indiki *ne-kara* “hand”
PWN *GWAL, KA (KYA), KWÁN* “hand”
Bantu *ka* “hand”, *gado* “arm”
Mande *teké, teké* “hand”
Afro-Asiatic : Cushitic : Sidamo (E) *ba?a* “place”

***K = ĝ** ***A = a** ***R = r**

PLANT **Sumerian** *ú* “plant”
PWS *pu* “to appear” (of plants)
PWS *pú* “field, plantation’
PWN *BUN* “harvest”
Bantu *bu,n* “harvest”
Mande *fĩra, fũra* “plant”
Mangbetu *pudu* “water in the hollow of a tree”

***P = #** ***U = u**

POT **Sumerian** *utul*$_2$ “pot”
PWS *tu* “water”, *tua* “water”
PWN *THU, THUA* “water place”
Bantu *to* “river”
Bantu *tu,ko* “water pot”
Swahili *mto* “river”
Mande *kulu-ntu* “winding river”
Mangbetu *tu* “pond in the forest”

***T = t** ***U = u**

POT **Sumerian** *dug* “pot”
PWS *tùà* “to roast”
PWN *tuk* “to boil”
Bantu *tukut* “to be hot”, *tokot* “to be hot”
Bangi, Ngala, Poto, Ngombe, Kele *tumba* “roast”
ES Nile Nubian, Old Nubian *tu* “belly”

***D = d** ***U = u**

POT **Sumerian** *bur* “pot, jar, repast”
PWS *pu* “belly”, Tschi *a-fúrú* “belly”
Bantu *pu,* “stomach”
Kongo *vumu* “stomach”
Mande *futu* “stomach”
Mangbetu *mbuo* “pot”

***P = b** ***U = u** ***R = r**

[Pots were seen as “bellies” ; body parts were the model for describing reality]

PRECATIVE, AFFIRMATIVE PREFIX **Sumerian** *<u>h</u>é* (verbal prefix)
PWS *ka* “flesh”, *ka* “hand”, “and” etc. **Sumerian** *<u>h</u>é* “abundance”
PWN *KA* “hand” **Sumerian** *<u>h</u>e* “to mix”
Bantu *ka* “hand” **Sumerian** *<u>h</u>i-a* “numerous” *(<u>h</u>á)*
Mande *teke, tike* “hand”
Mangbetu *te* “hand”
Mangbetu *teke* “ten” (two hands)

[This is an old N-C prefix found on a few tribal names, eg. heSo, compare eBudu, ekiKira, seTswana].

***K = <u>h</u>** ***A = e**

PRINCE **Sumerian** *nun* “prince, noble”
PWS *ni, nu* “man”, Gola *o-ńun* “person”, Kpelle *nũ* “person”
PWN *NINTU, (NITU)* “man”
Bantu *ntu* “person”

***N = n** ***U = u** ***N = n**

PURCHASE **Sumerian** *sa$_{10}$* “to purchase”
PWS *ka* “hand”
PWS *ka* “open” (hand), Agni *sa* “hand”
PWN *KA* “hand”
Soko *samba* “to buy”
Mande *sā* “to buy”

***K = s** ***A = a**

QUEEN **Sumerian** *<u>h</u>aš$_4$* “queen”
PWS *kà, kàl* “to remain, abide” ? (**Sumerian** *gašan* ‘lady”)
PWN *(KHAND)* “woman, wife”
“Bantu” (Johnston) *kazi, kat.i* “woman, wife”
Bantu *kádí* “woman”
Mande *kãsa* “wife of king”

***K = <u>h</u>** ***A = a** ***T = š**

RAIN **Sumerian** *šèĝ* “rain”
Kele *use* “sky”, Ngombe *buse* “sky”
PWN *BUDA* “rain, raincloud”
PWS *la, (da)* “day”, Mano *d<u>e</u>* “day”, Gio *d<u>e</u>* “day”
Bantu *dé* “sky, cloud”
Mande *sã* “rain”
PWS *ta* “sky, rain, clouds”
PWS *tu, tua* “water”, Guang *n-tśu’* “water”, Afema *a-su..-e* “water”
PWN *TU* “cloud”, *THU, THUA* “river, waterplace”
Bantu *tu,* “cloud ”, *du,nde* “clouds”, *du,mb* “rain”, *donga* “river”, *to* “river”
Mangbetu *tu* “pool in the forest”
Afro-Asiatic: Chad: Hausa (1) *ša:* “drink”, Ngala (2) *še:* “drink”, Logone (2) *se* “drink”

***T = š** ***A = e** ***G = g**

RATIONS **Sumerian** *ninda* “rations”
PWS *ní, nín* “tooth”, PWS *(ni, nia)* “mouth”
PWS *ni, niu* “to drink”
PWS *la, (d.a)* “mouth”
PWN *NÍANA, NÍUNA* “mouth”
PWN *DÀD* “jaw, chin”
PWN *LAK* “jaw”
PWS *ta* (+ Nasal) “to chew”
PWN *DÀD* “jaw”
PWN *NÍN* “tooth”
Bantu *daka* “tongue, jaw”
Bantu *jí,no* “tooth”
Kongo, Ngombe *dinu* “tooth”, Kele, Swahili *la* “eat”
Mande *da* “mouth”, Mande *n.<u>i</u>, n.i* “tooth”
Mangbetu *onio, ânio* “eat”
Mangbetu *odio* “speak”
CS Kunama *u:da* “mouth”
PCS **nyo* “eat”

PCS **tar, *la* “mouth”

***N = n** ***I = i** ***N = n** ***D = d**
***A = a**

RATIONS **Sumerian** *ba* “rations, divide”
PWS *ba* “storehouse”
PWN *BHAG* “stable”
Bantu *pemba* “food”
“Holoholo” *bal* “to count”
Mangbetu *ba* “village”
PCS *b*a* “village”

***B = b** ***A = a**

RED **Sumerian** *sa*$_5$ “red”
PWS *gia* “blood, red”, Ewe *ka-dze* “blood”, Guang *obu-dza* “blood”, Ahlo *obi-dza* “blood”
PWS *gia* “offering”, Ga *dza* “to worship”, Igbo *a-dža* “sacrifice”, Avatime *i-dza* “offering”
PWS *gian* “red”, Ewe *dzá* “red”, Igbo *dža* “bright red”, Kussasi *zi<u>ê</u>, z<u>ê</u>, zâ* “to be red”
PWN *GHÌÁ* “blood”
PWN *KÀL* “blood”
S.Sierra Leone (Bulom) *şa* “red”, Wu-Nyamwezi *za* “red”
Bantu *gi,dá, jinga, gadi,* “blood” (red)
Ngala *makila* “blood”
Mande *gyóli, dyóli* “blood”
Mangbetu *nzenzere* “red”
PCS **ka* “red”, **(k)ari* “blood”

***K = s** ***A = a**

REED **Sumerian** *gi* “reed”
PWS *<u>g</u>í, gíl, (<u>g</u>it)* “tree”, PWS *ti* “tree”
PWS *gi* “root, vein”
PWN *GHI, (GHIM)* “be alive”, PWN *TÍ* “tree”
Bantu *cimb* “plant” (dig)
Ngombe *gbie* “plantation”
Mande *yiri,* B *dyiri* “tree”
Mangbetu *gi* “clothing” (made from reeds)
Mangbetu *gi* “riverbank”
Mangbetu *gilinda* “brushwood that won’t burn”
Mangbetu *kese* “grass”
Mangbetu *ki* “wood for heating”
Mangbetu *aki* “to break”
PCS *ki* “to break”

***G = g** ***I = i**

RETURN

PWS *g i, g ia* “to go”, *kia* “to go”
PWN *GWÌA, KUA* “to go”
Bantu *gi, k(a)* “to go”, *jidá* “road”
Bangi, Poto, Ngombe *ke* “to go”, Kongo *kwenda* “to go”, Kongo, Ngala etc *njila* “road”
“Holoholo *si,* “to come”
Mande *kende* “to go well”, Mande *tā* “to go”
Chari-Nile: Kenuzi *gir* “road”
Mangbetu *hie* “road”, *ki* “visit”, *éki* “to enter”
PCS **si* “motion” (< *ki*)

Sumerian gi_4 “to return”
Sumerian $giri_3$ “foot”

***G = g** ***I = i**

RING, SMALL

PWS *ka* “ring”, Agni *n.-ga* ‘ring”
PWS *ka* “hand”, “finger” (small)
PWS *gua* “hand”
PWN *KWAT* “ring”
PWN *KA (KYA), KWAN* “hand”
PWN *KHÁL, KHÁND* “wife” (small)
PWN *KHAN, (KHYAN)* “sand” (small)
“Bantu” (Johnston) *ka, kazi, kat.i* “wife”
Bantu *dinga* “ring”
Bantu *kata* “ring” (Meinhof)
Bantu *ka* “hand”
Bantu *canga* “small”, “sand”
Bantu *gado* “arm”
Mande *kolo,* M *koto* “ring”
Mande *teke* “hand”
Mangbetu *ka* “a little” (particle)
Mangbetu *kaka* “fragment of broken pot”
Mangbetu *kaji* “marriage” ?
Mangbetu *âji* “to marry”
Mangbetu *gaga* “in an instant”
Mangbetu *ngbaga* “wheel”
Mangbetu *sasa* “small”
Mangbetu *esasa* “become small”
PCS **kaga* “tree” (hand, arm ?)

Sumerian *ḫar* “ring”, “small”
Sumerian *àr* “ring”

***K = h** ***A = a** ***L = r ?** ***K = #**

RIVER

PWS *lì(d.i)* “to eat, to drink” (action of head)
PWN *DI* “to eat”, *DIM* “extinguish”
Bantu *dí* “to eat”, *dí,m* “extinguish”
Nyanza (Johnston) 4 a-b *izi, di* “river”, S. Rhodesia *izi* “river”
Mande *du-mu* “to eat”

Sumerian id_2, (i_7) “river, canal”
Sumerian *íd-a* “river, canal”
Sumerian *idim* “spring, subterranean water”

PWS *li, (di)* “head”
PWS *lim (dim)* “extinguish” (of rain from the sky, ie. the “top or head”) ?
PWN *DU* “drip, leak”
“Holoholo” *lil* “to weep”(weep rivers of tears)
Mangbetu *ôdi* “to cook in water”
Afro-Asiatic : Cushitic : *dimena* “cloud” (under “rain”) (Greenberg)

[The verb “to eat” was also used for drinking.]

***D = d** ***I = i**

ROAD, JOURNEY **Sumerian** *kaskal* “road”
PWS *gà* “place”, *guá* “gate”, PWS *g̲i, g̲ia* “go”
PWN *GWÌA* “go”, *KAK* “chase”
Bantu *k(a)* “go”
Bantu *gi* “to go”
Bantu *jidá* “road”
Kongo, Ngala *njila* “road”, Swahili *njia* “road”
Upper Rufiji (Johnston) *gazi, kazi* “road”
Mande *sīra, sīla* “road”

Chari-Nile: Murle *kakun* “to come”, Merarit *ka: ka* “to come”, Nyangiya *kats* “come” (imp.)Nilo-Saharan: Songhai: Gao, Djerma *ka* “to come”, Saharan: Berti *kai* “to come”

***K = k** ***A = a** ***K = s**

ROAD **Sumerian** *sila, sil* “road”
PWS *g̲ i, g̲ ia* “to go”, PWS *kia* “to go”
PWN *GWÌA* “to go”
Bantu *jidá* “road”
Mande *sīra, sīla* “road”
Mangbetu *hi* “road”
PCS **la* “motion”
Afro-Asiatic : Chad : Gidder (5) *ura* “road” (Greenberg)

***K = s** ***I = i** ***L = l** ***A = A**

ROAD **Sumerian** *a-ra* “road”
PWS *la* “earth”, “below” **Sumerian** *ra* “go”
PWS *là* “earth, ground”
Bantu (Johnston 1922: 535) *lāā* (16), *laba* (1), *laγa* (120), *la* (199), *ala* (204, 205) “go”
“Holoholo” *lah* “to flee”, *lak’* “to march”
Eastern Sudanic : Merarit *la* “to go” (elsewhere *lo*)
Chari-Nile: Lendu *ra* “to go”

But “road” may be from *ra* “water” (travel by water). Or “water” is < “go”.

**** L = r** ***A = a**

ROOT **Sumerian** *erina* “root”
PWS *li, ri* “root”, Igara *i-li* “root”, Edo *i-ri* “root”, Delo *li-la* “root”
PWN *LÍL, (LÍUL)* “root”
Bantu *di,* “root”
Mande *lili, dili* “root”
Mangbetu *lianga* “herb eaten raw”
Mangbetu *edi* “to plant”
PCS *d*i “dig, bury”
PCS **(k)ar, *(k)al* “root”

[Sumerian has an old prefix *e-* and an old suffix (article) *–na* on this word]

***L = r** ***I = i**

ROUND **Sumerian** *gur*$_4$ “round”
PWS *kua* “quiver, bag”, *kua* “calabash, bucket, plate” (round objects)
PWN *KUL* “to roll”
Bantu *kunguduk* “roll down”
Swahili *kunja* “roll up”
Mande *kulu-kutu* “to roll”

***K = g** ***U = u** ***L = r**

RUN **Sumerian** *kas*$_4$ “run, messenger”
PWS *gia* “go”
PWN *KAK* “chase”
Bantu *k(a)* “go”
Mande *gba* “to go”
Mangbetu *oyo* “to go” ?
PCS *ŋga* “motion”
CS Kunama *ga* “to go”

***K = k** ***A = a**

SACRIFICE **Sumerian** *siskur*$_2$ “sacrifice”
PWS *kú, kúá, kúí* “to kill, to die”
PWS Dagarti *k’i,* Birifo *k’i,* Gba, Lobi, Dyan *k’i* “to die” (from *kui*)
PWS *kì* “to abstain from” (religious)
PWN *KU* “to kill”
PWN *KIT* “to refuse”
Bantu *cit* “to refuse”

Mande *lā-siri, dā-siri* “sacrifice”

***K = s** ***I = i** ***K = k** ***U = u**

SANCTUARY **Sumerian** *tùr* “stable, sanctuary”
PWS *tù* “to build” **Sumerian** tur_5 “to enter”
PWN *TU, (TUN)* “to build” **Sumerian** *tuš* “house”
Kongo, Ngala, Poto *tunga* “build”
“Holoholo” **tulul’* “to raise, to lift”
Mande M *su* “house”
Mangbetu é*tu* “to place” (*âtu* “defend”)

***T = t** ***U = u**

SAY **Sumerian** *e, (ég, èg, íg)* “to say”
PWS *guè* “voice, speech”
PWN *GWAM* “to speak”
Bantu *gamb* “to speak”
“Holoholo” *jwĭ* “voice”
Mande *ku-ma* “to speak”
Mande *kã gbè* “speech”
Mangbetu *kwé* “insult”
PCS **ve,* i* “vocal”

***GW = #** ***E = e** ***G = g**

SAY **Sumerian** dug_5 “say”
PWS *lum* “to bite”, Guang *duŋ* “to bite”
PWN *TUK (TIUK)* “to curse”, PWN *THUM* “mouth, lips”, PWN *THÚI, THÚ* “ear”
Bantu *ti* “to say”
Bantu *gimb* “to curse”
Bantu *túk, dú,m* “to revile”
Mangbetu *dru* “head”, *ôdrué* “to tell”
PWS *lu, (du)* “head”
PCS **ru, *d.ue* “vocal”

[Saying and biting are activities of the head/mouth. Probable connection with PWS *lu, li, (du, di)* HEAD, which includes MOUTH.]

***D = d** ***U = u** ***K = g**

SAY **Sumerian** *mu* “word, to speak”
PWS *mua, (mu)* “to laugh”
PWS *mú, múmú* “dumb”
PWS *mua* “sweet” (sweet taste in mouth)
Bantu (Meinhof) *muma* “to close the mouth”
Bantu *mu* “inside”
PWS *bú* “to cry”
PWN *BUL* “to speak”
Mande *kumu* “to speak”

Mangbetu *omu* “sentir”
Mangbetu *abuo* “to exhort, advise” (*abu* “to gesticulate”)
PCS *mbu* “drink” (mouth)

[*mu* is a nasal grade of *bu*].

***M = m** ***U = u**

SAY **Sumerian** *bi* “say, speak” (*bibi*)
PWS *bí,(bítíá)* “to ask, demand, beg”, Yoruba *bi* “to ask”
PWN *BÍL* “ to call, name”
PWS *bú* “to cry”, Igbo *o-búbu* “continual crying”
PWN *BUL* “speak, tell”
Bantu *búud* “talk, say, tell”
Bantu *pud* “to ask”
Kongo *vova* “to say”, Kongo *vinga* “to ask”
Mande *fò, fwò* “to speak”
Mangbetu *ôbi* “to discuss”
PCS **ve, *vi* “vocal”

***B = b** ***I = i**

SAY **Sumerian** *i* “say”
PWS *bi* “ask” etc.
PWN *BÍL* “ to call, name”
Bantu *pud* “ask”
Bantu *búud* “speak”
Or from Sumerian *di* “verdict” ? With *d*-loss. See under *dug* “say” (< *di, du* “head”)
Mangbetu *ôbi* “to discuss”
Mangbetu *odio* “speak”
PCS **zi, *ti, *vi* “vocal”
.
See the previous entry

B = # ***I = i** **(*D = #** ***I = i)**

SEE **Sumerian** *igi...duh* “see”
PWS *kià* “to become visible”, “to dawn”
PWN *KIG* “eyebrow”, *KI* “to dawn”
Bantu *kia* “to dawn”
Bantu *ké* “to dawn”
Bantu *(n) ci* “bright day”
Bantu *ki,* “eyelid”, *kí,ge* “eyebrow, eyelash”, *jí,co* “eye”
“Holoholo” *ki,kĭ* “eyebrow”
Mande *kenè* “bright”, Mande *ye-ta* “visible”
Khoisan : Sandawe */a* “to see”
Mangbetu *ki* “to visit” (see)
Afro-Asiatic : Chad : Buduma (2) *yil,* Cushitic : Quara (C) *yil* “eye”; Semitic : Arabic *?inna* “behold”, Hebrew *hinn-* “behold”

B & Semi-B *dyuk* “see” (273) suggests *duk “see”, compare *dōkō* “see” (251), also *dōra* “see” (2, 2d-f)
Compare *dziu* “eye” (175, 178). Sumerian *igi...duh* = “eye...see”.
Mande *yīra,* B *dyīra,* M *yīta* “to make see”

[The old African root **ki* “see” gives Sumerian *igi.*]

***K = k** ***I = i** ***D = d** ***U = u**
***K = h**

SEED **Sumerian** *numun* “seed, offspring”
PWS *nwa* “to eat”, PWS *nu, nua* “mouth” (eat seeds), PWS *nu* “drink”, Kilina *n.un* “drink” etc. [Words for eating & drinking not distinguished] **Sumerian** *nuĝun, niĝun* “seed etc”
PWS *ni, niu, niua* “drink”, PWS *(ni, nia)* “mouth”
PWN *NÍN, (NÍGHIN)* “tooth”
PWN *NÍUNA, (NÚA)* “mouth”
Mande *du-mu* “to eat”, *nyu-mu* “to eat”
Mangbetu *onio* “eat”
PCS *nyo* “to eat”
NC Ibo *nnunu* “bird”, Kam *nu* “bird”, Nimbari *nun(gu)* “bird”

See under EGG. Birds were ancestors. “Offspring” is from “nourish, feed”.

***N = n** ***U = u** ***M = m** ***U = u**
***GH = ĝ**

SEEK **Sumerian** *bu-bu-lu* “to seek”
PWS *bi* “to ask, demand, beg”
PWS *bú* “to cry”, Igbo *o-búbu* “continual crying”
PWN *BUL* “speak, tell”
PWN *BÚD* “get lost”
Bantu *búud* “talk, say, tell”
Bantu *bú,* “earth”
Mangbetu *buburu* “on the earth”
PCS **vuru* “earth”

[M. *buburu* is the best match]

*** B = b** ***U = u** ***L = l** ***U = u**

SEVEN **Sumerian** *imin* “seven”
PWS *nú* “hand”, (five), Likpe *ko-ní* “hand”, Tem *ni-ka* “finger”, Baba *ni-kiwu* “hand” (a hand has five fingers).
Mande *koni,* M *kondi* “finger”

[An old word for “hand”,*(n) i,* is used for “five”, with reduction to *i.* This is followed by the word for “two”, *min,* giving “seven” by addition. The word *ni* is probably a nasal grade of *di*. The final *n* of Sumerian is from *ni,* a plural.]

***N = #** ***I = i** ***M = m** ***I = i**
***N = n**

SHEEP **Sumerian** *udu* “sheep, small cattle”
PWS *lu* “head”, compare *lu* “cow” (*lu = du*) **Sumerian** *u_8, (us_5)* “sheep”
PWS *lu, li* “cow” (*d.u, d.i*), Ahlo *u-lu* “cow antelope”
PWN *TÚI* “head”
Gur **dun* “animal”

***D = d** ***U = u** ***D = #** ***U = u**
***T = s**

SHEEP **Sumerian** *gukkal* “sheep, long tail ”
PWS *gù* “kill” **Sumerian** *kungal* “sheep”
PWS *kú* “kill”, Ewe *kùkú* “death”, Tschi *kũ-m* “to kill”, Nupe *e-kú* “carcass”
PWS *ku* “stomach”, Bulom *kun* “belly”, Padjade *pa-kunt* “belly”
PWN *GWU, KHUTAN* “sheep”
Bantu *gú,* “sheep”, *kodo* “sheep”
Swahili *kondoo* “sheep”
Kele *bokoko* “sheep”

[For “sheep” = “carcass” compare French *mouton*: *kal, gal* means “big”].

***K = k (g)** ***U = u** ***K = n**

SHEPHERD **Sumerian** *kabar* “shepherd” (*kapar*)
PWS *guànì* “sheep”, Avatime, Baule *bwa* “sheep”, Zema *bwane* “sheep”, Afema *bwa* “sheep”, Ga *gban-ten.* “goat”, Ada *a-gbání* “sheep” [*bw* > *β*]

[The original root *ba* is prefixed, probably with *gu-*]

PNC *ba “sheep, goat”
PWN *GWU, KHUTAN* “sheep”
Bantu *gú,* “sheep” (*gubani > *guànì*)
Mande *bara-saŕa* “house sheep”, *saŕa-ba* “mouton de grande race”

[The *ka* is a prefix referring to the shepherd (“hand”)]
[Linear A has *kapa* “shepherds” ?]

***B = b** ***A = a** ***R = r** ***K = k**
***A = a**

SHEPHERD **Sumerian** *sipad (sipa, sib)* "shepherd"

Bangi, Poto, Ngombe, *mbata* "sheep", Ngala *mpati* "sheep"
North Central Congo *pata*, pate*, pati** "sheep" (Johnston 1922: 373)

[The word has a noun prefix *si-* seen also on *siki* "wool". Atlantic : Mbulungish, Nalu have *ãkisi/ãkisiliŋ* "sheep", and *kékisa* "sheep". The final syllable seen in Congolese languages has been lost.]

***B = p** ***A = a** **T = d** **S = s (K = s)**
***I = i**

SHINE, DRY **Sumerian** *<u>h</u>ada₂, <u>h</u>ad* "shine"
PWS *kà, kàn, kàl* "coal, charcoal"
PWN *KÁN, KYÁN* "daylight"
Bantu *káda* "charcoal"
Mande *kami* "charcoal"
Mande *kā-ndi, gā-ndi* "fire"
Mangbetu *kadra* "flame"
Mangbetu *kago* "fire"
PCS **co* "fire, smoke"

***K = <u>h</u>** ***A = a** ***D = d** ***A = a**

SIDE **Sumerian** *da* "side"
PWS *ta* "thigh" **Sumerian** *ta* "side"
PWS *ta* "hand" (at side)
Cameroons-Cross River (Johnston) *tā* "thigh"

***T = d** ***A = a**

SISTER **Sumerian** *nin₉* "sister"
PWS *ni* "person"
PWS *ni* "mother"
PWN *NINA, NINU* "mother"
PWN *NINTU (NITU)* "person, man"
Bantu (Meinhof) *ni* "mother"
Compare Mande (Delafosse 1929) *su-n.guru-ni* "fille"; *na-ni* "aunt"

***N = n** ***I = i** ***N = n**

SIT **Sumerian** *tuš* "sit"
Bantu *tungi* "thigh" **Sumerian** *tud* "give birth" (sit)
Bantu *tu,mbi* "stool"
Mande M *toko* "haunch" **Sumerian** *tugul* "haunch"
PWS *tù* "to push", Tschi *tua* "to be stuck, fixed" (forms in Efik *tut, tuk*).
"Bantu" (Johnston 1922: 542) *tue* (218), *tula, tuñgi, tuñga* "to sit"

Swahili *tako* “buttocks”
Mande *sigi-to* “seated”

***T = t** ***U = u** ***T = š**

SIX **Sumerian** *aš₃* “six” (diff sign)
Poebel analyses this number as “five” + “one”. For “one” see Sumerian *maš* “one half” and Sumerian *aš* “one, unique” (reduced from *maš* by loss of *m*). “Five” is derived from a word for “hand” *ni* with loss of initial *n*. The vowel *i* is then lost. But Hebrew has *šeš* “six”, Arabic *sitt,* Hausa (1) *šidda* “six”.

See also Section on Numerals

***N = #** ***I = #** ***M = #** ****A = a**
ni > # *maš* > *aš*

SKIN **Sumerian** *kuš* “skin”
PWS *ku, kua* “skin”, Likpe *ku-kúa* “skin”, Efik *i-kp̲o̲k* “skin, Kilina *gbant* “skin”
PWN *KWUBA* “skin”
Bantu *gobi,* “skin for carrying a baby”
Swahili *ngozi* “skin”
Mande (Delafosse 1929) M *gulu, guru* “skin”
Khoisan : Naron (C) *co* “skin”
Mangbetu *kepi* “skin”

***K = k** ***U = u** ***T = š**

SKY **Sumerian** *an* “sky, heaven”
PWS *la* “day”, Ga *d.ā* “day”, *d.á* “always”
North Guinea (Johnston) *dana* “sky” [*a* + *a* > *ā*]
Mande (Delafosse 1929) *tele-ra* “sun”, *lā, dā* “day”
Mangbetu *ro* “sky”
But see also PWS *man, mal* “flaming”, Bamana *mana* “flame, light” (of sky)
PWN *MUAL* “to shine”
Bantu *mue* “splendour”
Afro-Asiatic : Chad : Hausa (1) *sama* “above”, Logone (2) *sama* “rain”

[Initial retroflex *d.* is lost in Sumerian. The final *n* in Sumerian is an article *–n(a)*]

***D = #** ***A = a** ***N = n** **or** ***M = # (probable)**

SLAVE **Sumerian** *arad* “slave”
Guinea-West Cameroons (Johnston) *ara* “war” [Frequent *–ra* added in this area]
[Initial *t-* has been lost. Compare S. *a-a* = PWS *tata* “father”, S. a_2 “arm, strength” = PWS *ta* “hand”. Plosive *t* > Lenis *th* > Zero grade] ?
Bantu *jidá* “road ”
Kongo *ngila* “road ”
Mande *dã-ndã* “to escort”, *taŕa* “to go”, *sīra* “road ”

[An old African word *la, ra* “to go” has been used of “going to war” and “capturing slaves”?]

***L = r** ***A = a** ***D = d ?**

SLAVE **Sumerian** *nim* “slave”
PWS *ni* “person”, Uwet *o—nut* “man”, Wolof *nit* “person”, compare Avatime *ba-ni-ma* “person”, Nyangbo *ba-nu-no* “person”, Bulom *a-nin* “people”, Gola *o-ńun* “person”
PWN *NINTU, (NITU)* “person, man”
Bantu *ntu* “person”

***N = n** ***I = i** ***M = m**

SLAVE **Sumerian** *saĝ(a)* “head; slave”
PWS *kúá* “slave”, “man”
PWN *KWAL* “prisoner”
Bantu *pika* “slave”
Zambezi *ṣa* “slave”, Congo *ṣaka** “slave”
Mande *gyõ* ‘slave”

***K = s** ***A = a** ***K = ĝ ?**

SLEEP **Sumerian** nu_2 “sleep”
PWS *nì, nù, nìa* “to see, eye”
PWN *NÍN, NÍNU* “eye”
B & Semi-B *numì* “eye” (257), *nū* “eye” (258), *ñωhũ* “eye” (260)
Mande *n’-ya-ni* “eyeball’, *si-nòŕo* “sleep”
Mangbetu *ônu* “make night”
Afro-Asiatic : Chad : Mubi (9) *suno,* “dream”

[This Sumerian word, with cognates, is a nasal grade of *tu.]

***N = n** ***U = u** ***T = n**

SLEEP **Sumerian** *ù* "sleep"
[according to S. Lieberman, *u, ù,* and u_4 were pronounced */o/*]
We may have to do with the root in the following entry: Johnston (1922: 289) has *itω, tω* "eye" (21a, 21b-d, 21e).
Linear A *DO* "eye", Sumerian *da* "sleep"
Bantu *dóo* "sleep", Bantu *tongo* "sleep"
Ngala *mpongi* "sleep".
Mangbetu *jo* "obscurity", "Holoholo" *lô* "sleep"
Mande (Delafosse 1929) B *su-nã* "to sleep", *su* "night"
Or *ú* may represent nu_2, as in the previous entry, with loss of initial *n.*
Mangbetu *bo* "evening", "Holoholo" (Coupez) *oj* "sleep", with Bantu *poku* "blind".
PWN *GWOL, (GWON)* "fall asleep"

But see under S. *šu* SLEEP. Loss of *š* ? A better solution.

***N = #** ***U = u** ***D = #** ***B = #**
***O = u**

.

SLEEP **Sumerian** *šu,(šuš)* "sleep"
Sumerian *ù-a* "to sleep"
Sumerian *ù-di* "sleep"
Sumerian *ù-ku* "to sleep"
Sumerian *ù-sá* "sleep"
Bantu *tongo* "secretion of the eye"
Poto *tongo* "sleep"
Mande *su-nã* "sleep"
Mangbetu *etu* "become weary", *otu* "bend with fatigue"
Khoisan : Masarawa (S) *tu* "lie down", !O!Kung (N) *šu* "lie down"
PCS **tu* "shut" (eyes)
Afro-Asiatic : Chad : Bolewa *suna* "dream" (compare Mande)

[The *–a, -di, -ku, -sá* are suffixes. Eg *-a* makes "Verbalnomina" (Westermann 1927 : 304); *–ku* is a common Niger-Congo infinitive suffix.]

***T = š** ***U = u** ***T = š** ***T = #**

SLEEP **Sumerian** *da* "sleep"
Sumerian *dag* "place of repose"
PWS *la* "to sleep", Tschi *d.a* "to sleep", Guang *d.a* "to lie", Efik *da* "to sleep", Bulom *lol* "to sleep", Krim *lo* "to sleep", Kissi *lo* "to sleep"
PWN *DÁD, (DÁL)* "to sleep"
Bantu *dóo* "sleep", "night"
Mande (Delafosse 1929) *dóg.ó, dógó* "night"
PCS **dV* "sleep"

***L = d** ***A = a** ***G = g**

SMALL **Sumerian** *tur* "small" (animals)
PWN *TITUA, (TIN)* "small" (*TITURA)
Bantu *toó (toó)* "small"
PB *tu* "plural of diminutives", *ti-* "small plurals"

Kilimanjaro, also Masaba *tutu* “small”, Caga *dū, dōri* “small”, Spanish Guinea-West Cameroons *tūi* “small” (with loss of *r*)
Ngala *–ti* “small”
Mande *tyeni* “small”
PCS **tu* “short”

***T = t** ***U = u**

SMALL **Sumerian** *didi*
PWN *TITUA, (TIN)* “small”
Bantu *ti-* “small plural pref.”
Ngala *ti* “small”
Mangbetu *titi* “young tree”, *titi* “small bird”

***T = d** ***I = i**

SMALL, SMALL MAN **Sumerian** gi_{17} “small, young man”
PWS *kì* “woman” (small)
PWS *kí* “tail” (small)
Bangi *ke*, Poto, Kele *keke*, Ngombe *kekeke* “small”
PWN *KEKE, (KEN)* “small”
PWN *KÍE* “woman”
BANTU *KƐ* “woman”
Mangbetu *méhi* “small”
Mangbetu *i, (wi)* “tail”
ES Didinga *ki*, Shilluk *ki*, Anuak *ke* “with” ?

***K = k** ***I = i**

SMOKE **Sumerian** $i\text{-}bi_2$ “smoke”
PWS *bì* “black”
PWN *BHIN* “dirt”
Bantu *pía* “fire”
Kongo *mwisi* “smoke”
Mande (Delafosse 1929) *fi̲* “black”
Mangbetu *ôbi* “to smoke”

***B = b** ***I = i**

SNAKE **Sumerian** *a-lá* “harmful being”
Sumerian *alad* “protective spirit”
PWS *g̲uà* “snake”, Nupe *g̲-wa* “snake”, Bassa *i-wa* “snake”
PWS *g̲ua* “hand, arm” (snakes were thought of as arms)
PWN *GHWÁKÀ, GHWYÁKÀ* “snake”
Bantu *jóka* “snake”
Kongo *nioka* “snake”, Swahili *nyoka* “snake”, Lolo, Ngala, Poto, Ngombe, Kele *njo* “snake”
Mande *bida* “black snake”
Mangbetu *tatala* “snake”

***GW = #** ***A = a**

Snakes were both harmful beings and protective spirits.

SON

PWS *bí* “child” (to bear) **Sumerian** *ibila* “son, heir”
PWN *BI* “seed”, *BÍ* “child”, *BI* “to give birth”
Bantu *bí,ad* “give birth”
Mande *fili-fe* “foundling”
Mangbetu *mbi* “person”

***B = b** ***I = i**

SOUP **Sumerian** tu_7 “soup”

PWS *tu* “water”
PWN *TU* “river, water-place”
Bantu *to* “river”
Bantu *tu* “soup”
“Holoholo” *su* “urine”
Mangbetu *tu* “forest pool”

***T = t** ***U = u**

SPEAK **Sumerian** *du-du* “speak”

PWS *lum, (dum)* “to bite”
PWN *DÚM* “to bite”, *LUL* “shouting, noise”
Bantu *dong* “to speak”
Kele *onga* “to speak” [*d*-loss]
“Holoholo” *tuk’* “to insult”
Mande *toŕo dyugu fò* “to speak badly of ”
Mangbetu *ôdrué* “to relate”, *dru* “head”

***D = d** ***U = u**

SPEAK **Sumerian** *di-di* “speak”

PWS *lì, (di)* “to eat” (action of head/mouth)
PWN *DI* “to eat”
Bantu *ded* “to speak”, *tet* “to quarrel”
“Holoholo” *it’* “to call”
***D = d** ***I = i**

SPEAK **Sumerian** dug_4, du_{11} “speak”

[The *a* often changes to *o* ; Kukuruku *tota* “speak’, Avatime *to* “damit = sagend ”]
Sumerian graph U = [u], [o]. N-C *a* > *o.*
PWN *THUM* “mouth, lips”, *TUK, (TIUK)* “curse” ?
Mande *du-mu* “to eat”
Mangbetu *âdo* “to instruct”
****D = d** ***U = u** ***G = g ?**

SPEAK **Sumerian** *bi* “to speak”
PWS *bí* “to ask”
PWN *BIL* “to tell”
Bantu *pud* “ask”
Kongo *vinga* “to ask”
Mande *tor.o bila* “don’t speak of”
Mangbetu *ôbi* “to instruct”
PCS **ve/i* “vocal”
***B = b** ***I = i**

SPEAK **Sumerian** *e* “to speak”
PWS *guè* “speak, voice”, Ewe *gbè* “voice”, Yoruba *i-gbe* “loud cry”, Gbari *e-gwe, e-gbe* “mouth”
PWN *GWAM* “to speak”
Bantu *jued* “to speak”
Mande (Delafosse 1929) *o ye* “to speak”
(Compare Mande *dān.a* “to curse”, *da* “mouth”)
PCS **ve/i* “speak”
***GW = #** ***E = e**

SPIDER **Sumerian** *aš$_{(5)}$* “spider”
PWS *na* “spider”, Tschi *a-nanse* “spider”, Guang *nàtè* “spider”
“Holoholo” *tandé* “spider”
Mande has the expression *tiga nyar.a* (*tiga* = “spider”).
Mangbetu *na ndri* “big spider” (the *na* is an article).

Note that *áš* means “curse” (spiders were under a taboo, liable to changes in their name and representation).
***N = #** ***A = a** ***T = š**

SPLENDID, TO BE **Sumerian** *mah* “to be splendid, magnificent”
PWS *gán* “great”, Ewe *ame-gá* “elder, chief”
PWS *ka* “king, chief”
Ngala *monanga* “chief”
Mande *gāna* “war chief”
Mangbetu *ga* “the biggest tree”

[Indo-European has *maha, mega* etc. for “great” as in *maharaja*] [nasal grade of *bá* “lizard” ?]
***M = m** ***A = a** ****K = h**

STAND **Sumerian** *gub* “to make stand” PWS *guà* “scaffolding”, *(gba)*
PWN *GIM, (GIUM)* “stand”
Bantu *gi-am* “stand”
PWS *kúp* “bone”
Bantu *kûpa* “bone”
PWS *kua* “leg, foot”, Igbo *ó-kpà* “foot, leg”
Bantu *gudu* “foot”
Mande *gyu* “foot” (of tree or mountain)
Khoisan : Hatsa *//ka* “to stand”
Mangbetu *éku* “to come”
PCS **co, *ko* “motion”

***G = g** ***U = u** ***B = b**

STAR **Sumerian** *mul* “star”
PWS *man, mal* “flaming”
PWN *MUAL* “to shine”
Bantu *mudi* “bright, torch”
Ngala *mololi* “flame”
Gur **ŋmad* “star”
Bulom *ului* “star”
Bwaka *ulu* “star”, Mbum *ru* “star”
Mande *mana* “flame”
Mangbetu *tulu* “star”
PWS *tùà* “to roast”

Probably Sumerian has a nasal grade.

***M = m** ***U = u** ***L = l**

STAR **Sumerian** *šun* “star, shine”
PWN *TSONDUA, (TONDUA)* “star”
Bantu (Guthrie) *NTЄ’NTЄDI* “star”
Kongo *ntetembwa* “star”
Mangbetu *tulu* “star”

***T = š** ***U = u (or = o)** ***N = n**

STONE **Sumerian** *na*$_4$ “stone”
PWS *ta, tali* “stone”, Gurma *li-tan-le* “stone”, Kissi *tant* “stone”
Sumerian has a nasal grade of *ta* for “stone”
PWN *THÁLA, THÁLI* “stone” (Lenis plosives suggest a preceding nasal).
Bantu *manya* “stone”

A similar nasal grade occurs in *ta* “fire”, *na* “fire”.

***T = n** ***A = a**

STONE **Sumerian** *zá* “rock, stone”
PWS *ta, tali* “stone”, Gurma *li-tan-le* “stone”, Kissi *tant* “stone”
PWN *THÁLA, THÁLI* “stone”
Poto *litali* “stone”
“Holoholo” *ta’* “to throw”
PWS *tá* “to shoot”
PWS *ta* “stone”
PWS *ta* “hand”
Mangbetu *ata* “to strike with the hand”, *ota* “to strike forcefully”

***T = z** ***A = a**

STRAW **Sumerian** *in* "straw"
PWS *ti* "roofing straw"
PWS *ti* "tree, plant", *ti-n* "medicine"
PWN *TÍ* "tree"
Bantu *tí* "tree"
"Holoholo" *tǐ* "tree"
Mande *tyi* "roofing straw"
Mangbetu *titi* "young tree", *ôti* "to attach"
Mangbetu *gi* "kind of tree" (protective)

***T = #** ***I = i** ***N = n** **or** ***G = #**

STRENGTH **Sumerian** *a, kal* "strength"
PWS *ka* "hand"
PWN *KA, (KYA), KWAN, GWAL* "hand"
Mande (Delafosse 1929) *gbere,* B *gere,* M *gete* "strong"; *gbesi,* M *gese* "force"
Khoisan : Sandawe *//ga* "stand" ?
Mangbetu *kwakwara* "strength"

[Sumerian *a* has lost the initial *k*]

***K = #** ***A = a** ***L = l** ***K = k**

SUN **Sumerian** ^{d}*utu* "sun god"
PWS *tùà* "to bake, roast"
PWN *TUK* "to boil, to be hot"
Bantu (Meinhof) *tûmba* "to roast"
Bantu *túku* "day"
Ngala *butu* "day", Poto *utu* "day"
Mande *su-soŕo* "sun" (rising)
Mangbetu *tulu* "star" (little suns)

***T = t** ***U = u**

TABLET **Sumerian** *dub* "tablet"
PWS *lu* "head", *(du), li* "head "
PWN *TÚI* "head"
Bantu *túe* "head"
PWS *búá* "hand"
PWN *BUAK* "arm"
Bantu *bóko* "arm"
Mande *bolo* "arm"

[The *b* refers to the "hand" used to write on the tablet. The tablet is thought of as a speaking head. African wooden tablets had speaking heads.]

***D = d** ***U = u** ***B = b**

TAIL **Sumerian** *kun* "tail", "orifice"
PWS *kí* "tail"
PWN *KÍLA* "tail"
Bantu *kída* "tail"
Soko *ekuluha* "tail", Kongo *nkila* "tail"
Mande *ku* "tail"
Mangbetu *kuno* "bird with long tail"

***K = k** ***U = u** ***N = n**

TAKE, RECEIVE **Sumerian** *šu...ti* "to take, receive"
PWS *tú, tí* "to take"
PWN *THU,(THUD, THUK)* "to carry on head or shoulder", *TUT* "to carry"
Bantu *tut* "to carry from...to"
Mangbetu *êtu* "to take"

***T = š** ***U = u** ***T = t** ***I = i**

TALENT (weight) **Sumerian** gu_2 "talent"
PWS *kuì* "big"
[PNC *ku* "grow, big"]
PWN *KWUL* "be big"
Bantu *kúd* "become strong"
Bangi *nguya* "strong", Soko *ngulu* "strong"
See PWS *guà* "much"

***K = g** ***U = u**

TEN **Sumerian** *<u>h</u>ù, u* "ten"
PWS *kuì* "big"
PNC *KU "increase"
PWN *KWUL* "be big"
But *ku "left hand" may be the basis (counting from right to left)

[Ten is a big number, Bantu *kumi* "ten"]

***K = <u>h</u>** ***U = u** ***K = #** ***U = u**

TEN **Sumerian** *ḫa, a_6* “ten”
PWS *ka* “hand(s)” (used for “ten”)
[*k > s > h > #*]
Mande *tegè, tekè* “hand” (Latin *decem* “ten”)
Mangbetu *teke* “ten”

***K = ḫ** ***A = a** ***K = #** ***A = a**

THAT, THIS **Sumerian** *ri* “that” (?)
Niger-Congo demonst. definite *di.*
PWS *lé, (dé, dó)* “one”
Sudan (Westermann 1911) *nl.í* “someone”
Mangbetu *ri* “animal or bird”
Mangbetu *ndri* “this”

[The Mande suffix *–ri,* used as a plural, probably comes from an old definite. Mande has an *–i* suffix with definite function which must derive from *–Ci,* probably *–li, -ri.*]

***R = r** ***I = i**

THING **Sumerian** *nig_2 (ni_3)* “thing”
PWS *ní* “to be someone, to be something”, PWS *ni* “this, that”
Bantu *ntu* “something”
Bantu (Meinhof) *-γinî* “person”
Zulu-Kafir *ini* “thing”, Central Congo *kiti** “thing”
Bantu prefix 9 *ini-* (animal) may be comparable.

***N = n** ***I = i** ***G = g**

THIS **Sumerian** *bi* “this”
PWS *bi* “child, person, somebody, small” (Bantu prefix = dem)
PWN *BHI* “thou” (interchange of pronouns and demonstratives)
Mande *mi* “this”
Mangbetu *mbi* “man”
Afro-Asiatic : Cushitic : Saho (E) *mi:* “who?”

***B = b** ***I = i**

THIS **Sumerian** *e-ne* “this”
Sumerian *e* “this”
PWS *na* “this”, Ada *o-ne* “the”, Grebo *ne-ne* “this”, Likpe *ne* “this”
PWS *ni* “this”, Nupe *a-ni* “thus, so”
Bantu (Guthrie) *NÓ,* “this, these” (B)
Mande *ni* “this”
Mangbetu *na, no, ne* “article”

Mangbetu *a, e, o* “plural article”
Mangbetu *no* “this”
Mangbetu *e* “3rd pers pron dir”

***N = n** ***A = e**

THIS

Sumerian *ri* “this”
Sumerian ***rig*$_5$** “slave, guardian”
Sumerian ***lú*** “man”

PWS *li, lu (di, du)* “head”
Bantu *di-* (prefix) “that”
Niger-Congo (Mande) *–ri* “plural” (from dem.)
Niger-Congo *–di* (Mande) “definite”
Mangbetu *ri* “animal” (generic)

***L = r** ***I = i**

THOU

Sumerian *za-e* “thou”
Sumerian *e-zé* “thou”

Mande *i, e,* M *i-te* “thou”
TogoR **-táni* “man”
Mangbetu *da* “companion”

[This old pronoun may be from *tá* “father” or *tani* “man”. Compare the Greek *ō tan* “good sir”]. Or the word may be related to *ta* “hand”. Probably “father” (form of address).

***T = z** ***A = a** ***N = #** ***I = e**

THREE

Sumerian *eš*$_5$ “three”
Sumerian *eš* “much”
Sumerian *éš* “measure of length”
Sumerian *eše*$_2$ “measure of length”

Kongo *–akete* “little”
Bangi *–ke* “little”
Poto, Kele *keke* “little”
Ngombe *kekeke* “little”
Soko *hekeheke* “little”
PWN *KEKE* “small”
PWN *TI, TITI* “middle”
PWS *tía* “middle” (of body), Igbo *e-kiti* “middle”, Akassele *ki-ketši* “between”, Sussu *tegi* “middle”
Bantu *kati* “middle”

“Three” is the middle of the hand. Both consonants and vowels have been lost here.

***T = š** ***K = #** ***E = e**

TIME

Sumerian *en (én, èn)* “time”, “until”

PWS *be* “time”, *(bere)* “time”
Mande *fo* “until”
Tschi *bíribiri* “much”, Ewe *bibibi* “much”, Ewe *blí* “much”
“Holoholo” *ling* “to measure”, *lindil* “to wait”
Nuba *ber* “to be full”, Kunama *bur* “full, satisfied”
Mangbetu *dinga* “time” ?
Mangbetu *ba* “until”

But see also PWS *ga* “side” > *wā* (long vowel from two shorts), also *na* “this”, Nupe *ana,* Nyangbo *kana* & PWS *na* “upon”. The past was in front (not behind, as now).
PWN *GHÀNÁ* “yesterday”
Bantu *jana* “yesterday”

The Sumerian final *n* may be from PWS *na* “to come” or from PWS *ní* “to be” or PWS *ni* “in, inside”.

***B = #** ***I = e** ***N = n** **or** ***D = #**

TIMES **Sumerian** *a-ra*$_2$ “times”
PWS *la, da* “sun, day”, “always”
Niger-Congo (Greenberg), Ga *la* “fire”, Sango *la* “sun”, Barambo *ora* “day”
Bantu *dido* “fire”
PWS *tá* “fire” (sun)
Togo R *tanú* “fire”
Bantu *deedó* “today”, *i,dó* “tomorrow, yesterday”

****L = r** ***A = a**

TO, TOWARD **Sumerian** *še*$_3$ “to, toward” (term)
PWS *ta* “to go”
PWN *TAMB* “to travel”
Bantu *tamba* “to go”
Mande M *taka* “to go”
Khoisan : Hatsa *dza, dze* “to come”

***T = š** ***A = e**

TONGUE **Sumerian** *eme* “tongue”
PWS *lima,* II Efik *e-deme,* Anang *e-dem* “tongue”, V Biafada *wu-dema* “tongue”
PWN *LÍMA (LÍAMI)* “tongue”
Bantu *dími,* “tongue”
Ngombe *yeme* “tongue”
“Holoholo” *limi* “tongue”
PCS **d.a* “tongue” (syncopated ?)
Afro-Asiatic : Chad : Mubi (9) *lisi* “tongue”

[Sumerian has lost initial *d* through retroflection (or palatalisation ?)]

***D = #** ***I = e** ***M = m** ***A = e ?**

TOOTH **Sumerian** *zu*$_2$ “tooth”
PWS *lum, (dum)* “to bite”, Tobote *dju,* Gurma *džume* “to bite”
PWN *DÚM* “bite”
PWN *THUBH* “to pierce”
Swahili *uma* “bite”, Ngombe *dinu* “tooth”
Upper Kwango (Johnston) *zu* “tooth”, Kwango-Kasai *zu* “tooth”, Kadei-Sanga-Lobai *su* “tooth” (mainly Pygmy speakers), Benue *duñ* ‘tooth”
Makere, Medje, Mangbetu (Nilo-Saharan) *otu* “to pierce with lance”

***D = z** ***U = u**

TOTALITY **Sumerian** *gú, u*$_5$ “totality”
PNC *ku “grow, big”
PWS *kuì* “big, much”
PWS *kuni* “man” (men were big)
PWS *gua* “much”
PWN *KÚ, KÚKU* “old, ancestor”
Bantu *kumi* “ten, hundred” (big number)
Bantu *kúdú* “big, old”
Mangbetu *kuku* “family”, *kumu* “old person”
PCS **ku* “old”

***K = g** ***U = u** ***K = #** ***U = u**

TOTAL **Sumerian** *du* “work, totality”
PWS *li, lu, (di, du)* “head”, Dewoi, Gbe *du-ru* “head”
PWS *lé, (dé, dó)* “one” (total, also “ten” = total)
PWN *TÚI* “head”
Bantu *túe* “head”
Mangbetu *dru* “head”
PCS *do “work”
PCS **d.u* “head”

***D = d,** ***U = u** ***D = #** ***U = u**

TRANSPORT **Sumerian** *tumu*$_2$ “to transport”
PWS *tu* “to take”
PWN *TUT* “carry”
PWN *THU, (THUD, THUK)* “carry on head”
Bantu *tut* “to carry”
Bantu *tuma* “to send”
Mangbetu *âtu* “to send back”
PCS **tu* “motion”

***T = t** ***U = u**

TREE **Sumerian** *^{ĝiš} tir* “forest, tree ?”
PWS *tí* “tree”, Lobi *ti-ri* “tree”, Foro *ti-ri* “tree”
PWN *TÍ* “tree”
Bantu *tí* “tree”, *cati* “stake”
Kongo *nti* “tree”, Swahili *mti* “tree”
Mande *yiri,* B *dyiri* “tree”
Mangbetu *titi* “young tree”

***T = t** ***I = i** ***R = r**

TREE **Sumerian** *gi, giš* “tree”
PWS *gí, g íl, (gít)* “tree”
PWN *GHI, (GHIM)* “be alive”
Bantu *gu,i* “arrow”
Mangbetu *gi* “kind of tree” (protection)
Afro-Asiatic: Chad: Njei *kadi* “tree”: Egyptian *xt* “tree”

***G = g** ***I = i** ***T = š**

TWO **Sumerian** *min* “two”
PWS *bí* “female breast”, Alege *le-bi* “f. breast”, Likpe *le-mi* “breast” (2 breasts), compare Tobote *de-ni-mi-re* “eye”, Animere *di-ńi-mi* “eye” (2 eyes) Nasal Grade ?
PWN *BÍL, (BÍD)* “female breast”
Bantu *bidi* “two”
Swahili *wili* “two”
“Holoholo” *bílí* “two”
Madi (CS) *mi* “eye”
Mande *fila, fula* “two”

[In Bantu *mi* marks the plural (= two) of tens (Stapleton: 1903: 110)]. [Cretan Linear A uses *MI* for “one half”].

***B = m** ***I = i** ***N = m**

TWO **Sumerian** *man* “two”
PWS *bà* “two”, Mussu, Nde *m-ba* “two” (> *ma)
PWS *búá, búák* “arm”, also *ba,* (two arms)
PWN *BUAK* “arm”
B & Semi-B *bali, bari, bani* “two”, *mban* “two” (230), also *mba* “two” (215, 216 etc), *man* “arm” (263, 264), Johnston (1922 ; 248).

***B = m** ***A = a** ***N = n**

UNIT (weight) **Sumerian** *gun* “unit of weight
PWS *kuì* “much” **Sumerian** *gur* “unit of capacity”
PWN *KÚ* “heap” **Sumerian** *gul* “enormous”
Bantu (Guthrie) *KÚ, MÙ,* “chief” **Sumerian** *gú* “talent weight”
Bantu *kúdú* “adult”
PNC *KU “increase”
PWS *guà* “much”

***K = g** ***U = u**

UPROOT **Sumerian** *bu₃* “uproot”
PWS *pu* “throw out”
PWN *PU* “to finish”
PWN *PUL* “strip off ”

PWN *BUN* “harvest”
Mangbetu *bu* “kind of tree”

***P = b** ***U = u**

VINE **Sumerian** *ĝeštin* “vine, wine”
PWS *ti* “tree”, *tin* “medicine”
PWS *gi* “root” > *ge*
PWS *gí, gíl, (git)* “tree”
PWN *TIN* “root”
PWN *GHI (GHIM)* “to be alive”
Bantu *ti,na* “root, stump”
Mangbetu *gi* “kind of tree”

***G = ĝ** ***I = e** ***T = š** ***T = t**
***I = i** ***N = n**

WATER **Sumerian** *ra* “deluge”
Eastern Sudanic: Afitti *araŋga* “rain”, Tama *ar* “sky, rain”, Dinka *uar* “river”, Lotuko *(na)are* “water”, Bari *kare* “river”
Central Sudanic: Lendu *ra, arra* “sky”
Nilo-Saharan: Fur *ara* “rain”.

****R = r** ***A = a**

WATER **Sumerian** *a, e_4* “water”
PWS *bà, bàt* “swamp”, Efik *m-bat* “swamp”
PWS *pat* “swamp”
Bangi, Ngala, Poto *mai* “water”, Swahili *maji* “water”, Kele *balia* “water”, Kongo *maza* “water”
Mande *bã, (bā-n), bãg.a* “muddy water”, *gyi su-ma* “fresh water”
Niger-Congo *ma* “liquid” prefix.
Mangbetu *kuma* “rain” (suffix ?)
Afro-Asiatic : Chad : Angas (1) *am,* Ngala (2) *am,* Sukur (3) *yiam,* Musgu *yem* “water” (Greenberg), presumably from *ya “go, flow”

The previous example may be more relevant (*r* loss).

.

***M = #** ***A = a** ***A = e** **or** ***B = #**

[Probably **B > M]

WATER **Sumerian** i_7 "river, canal" (*id*)
PWS *lì, (di)* "eat, drink" **Sumerian** *dig* "humid"
PWS *lim, (dim)* "extinguish" **Sumerian** *dé* "to pour"
PWN *DIM, DIUM* "extinguish"
PWN *NI* "rain" (nasal grade)
Bantu *did* "weep"
Bantu (Johnston) *liba, diba* "water, well" (also *ndi*)
Mangbetu *ôdi* "cook with water"
PCS d*i* "cook"
PAA **dim* "blood"

***D = d** ***I = i** ***I = e**

WATER **Sumerian** ma_2 "boat"
See previous example

Bangi *bwato* "boat", Ngala, Ngombe *bwatu* "boat", Lolo, Poto, *watu* "boat", Soko, Kele *wato* "boat" (*bw* > Sumerian *m*)
Compare Afro-Asiatic Angas (1) *am* "water" etc. See *ú* "cargo"

***M = m** ***A = a**

WAY **Sumerian** *a-rá* "way"
PWS *gia* "to go" (Malay *jalan* "road")
PWN *GWÌA* "to go"
Bantu *jidá* "road"
Urbantu (Meinhof) *ɣila* "road", *ɣia* "to go"
Ngala *njila* "road", Kongo *njila* "road", Swahili *njia* "road"
Mande (Delafosse) *sīra, sīla* "road"

[Travel was originally by water].

**** L = r** ***A = a**

WE **Sumerian** *me-en-*de_3*-en* "we"
PWS *má* "this"
PWS *mì* "I"
PWS *ni* "I"
PWN *MI, AMI* "I", "me"
Bangi, Ngala *ngai* "I"
"Bantu" (Johnston) *tu, twe* "we", *mi, me, ma* etc. "I, me." (singular and plural personal pronouns not originally distinguished in Niger-Congo)
Mande (Delafosse) *anu* "us", *ne, ni* "I"
Mande (Delafosse) *ne-le, ne-de, ne-re,* M *n'-te* "me myself"
Mangbetu *ma, ima, ama* "I, we"
Mangbetu *ee* "our, we" (1st pers poss adj), also *aa.*

[Compare Latin *me, memet* "me" from the same source] [Swahili attaches *ndi* to the personal pronoun (first class) and also to the stem of the demonstrative (Stapleton 1903: 84)].

***M = m** ***I = e** ***N = n** ***D = d**

WELL **Sumerian** *pú* "well"
PWS *pu* "foam", "plantation", PWS *bùà, bùò* "cavity or hole"
PWN *BUDA* "rain, raincloud" PWN *BHO (BHOM)* "be wet"
Ngala *mpulu* "foam", Lolo *mfulu* "foam", Swahili *povu* "foam"
Ngala *lipoko* "hole"
Mande (Delafosse) *bugu* "fog"
Mangbetu *apu* "to be open"

***B = p** ***U = u**

WHAT ? **Sumerian** *a-na* "what"
PWS *na* "this, that" Prefix *a-*
Bantu (Stapleton): Kongo *nani* "who?", Bangi and Lolo *na?* "who?", Swahili *nani?* "who?" ("The Upper River languages employ this pronoun even when the noun is expressed and in English *what?* is used").
Bantu *a?* "who"
Chari-Nile: Kunama *na* "who, which?"
Mangbetu *na* "article"

***N = n** ***A = a**

WHITE **Sumerian** bar_6 "white"
Cameroons-Cross River *bara** "white", E. Africa : Ngindo *bara* "white" (Johnston 1922 : 446)
PWS *màn* "lime", PWS *málú* "rice" (white substances). Wanderwort? (Westermann)
Mande (Delafosse) *gbè-ma-ni* "blanchâtre", "whitish".

[I consider *ma* comes from **m-ba.* PWS *(m)-ba* "salt" (white substance).]

***B = b** ***A = a** ***R = r**

WHO **Sumerian** *a-ba* "who"
PWS *ba* "someone" Prefix *a-*.
PWS *ba* "they"
PWN *BA, BI* "they" (human beings)
"Bantu" (Johnston) *baba* "they"
Afro-Asiatic : Cushitic : Saho (E) *ma:,* Berber : Shilh *ma* "who?, what?" etc(< *mba)

[Stapleton says "The Upper River languages form a plural [of "who?"] in *ba-,* eg *banjai?*]

***B = b** ***A = a**

WIFE **Sumerian** *dam* “wife”
PWS *má* “mother”, Kebu *a-má* “mother”
PWS *bí* “to bear” (children)
PWN *BAD* “give birth, beget”
Bantu *bí,ad* “give birth”
Mande (Delafosse) *muso de-mba, muso de-ma* “a mother”
Khoisan: ! O !Kung (N) *dama* “woman”
Mangbetu *mababa* “old woman”, Mangbetu *ndro* “woman”

****D = d** ***A = a** ***M = m**

WIND **Sumerian** *lil*$_2$ “air, wind”
Ngala *leli* “wind” **Sumerian** *il* “transport, lift”
“Bantu” (Johnston 1922 : 416)164 *leli,*205 *li,* 206 *didi* (Span Guinea, W Cameroons) “wind”
PCS **lEl* “wind”
Chari-Nile: Ingassana *ailtu* “wind”
Central-Sudanic: Madi *o,li,* Mangbetu *lai* “wind”
Nilo-Saharan: Maban: Maba *auli(k)* “wind”

***L = l** ***I = i** ***L = l**

WIND, STORM, RAIN **Sumerian** *im* “wind” etc
PWS *lim* “to extinguish”, Temne *lim, dim* “to extinguish”
PWN *DIM* “to extinguish”
PWN *DIM* “darkness”
Bantu *dí,m* “extinguish”’
Bantu *(jí,dimá* “darkness”
Mangbetu *mbimbato* “wind”

***D = #** ***I = i** ***M = m** **or** ***B = #**

WING **Sumerian** *ĝi*$_{š}$*pa* “wing”
PWS *pap, pep* “wind”
PWN *PAPA* “shoulder, wing”
PWN *BÁMBÀM* “wing”
Bantu (Meinhof) *pepo* “wind”
Bantu *baba* “wing”, *papá* “feather”
Bangi, Ngala *lipapu* “wing”
Mangbetu *babara* “large, broad, flat”

***P = p** ***A = a**

WITH **Sumerian** *da* “with”
PWS *na* “this” “then”
PWS *ta* “hand”, Ga *d.e* “hand”, “give”, *tá* “to speak”, Nyangbo *te* “that”, “damit”.
Bantu *na* “with, and”
Bangi, Ngala, Ngombe, Swahili *na* “with”, Lolo, Poto, Soko, Kele *la* “with” (Stapleton 1903 : 127)
Mande *ra, ma* “with” (suffix).

Mangbetu *no* “with”

[The form *na* is from *n-ta,* which also gives *da*. Mande suffix *ra, la* “with” perhaps related. See Stapleton (1903 : 28, K) : “L is changed into D” “by the nasal”.

***T = d** ***A = a**

WOMAN **Sumerian** *munus* “woman”
PWS *ni, nu* “person”, Likpe *u-nu* “person”, Temne *wu-ni* “man”, Gbari *u-nu* “male”
Ngala/Poto *muntaka* “woman” recalls Central Congo *ωmuntu** “woman”. Both have *munt* which may be from **munut,* which would account for the Sumerian form.

In PWS *nu* means “person”. The preceding *mu* may be the singular personal prefix *gwu, mu*. For the following *t* compare Uwet *o-nut* “man”, Wolof *nit* “man” (person).

***GW = m** ***U = u** ***N = n** ***U = u**
***T = s**

WOMAN **Sumerian** *mí, mu$_{10}$* “woman”
Mande *muso,* M *musu* “woman”
Mangbetu *jômbina* “main woman of house” (*joto* “in house”)
Afro-Asiatic : Chad : Karekare (1) *men* “wife”, Cheke (3) *min,* Musgu (7) *muni* “woman”; Cushitic : Geleba (E) *minne,* Sidamo *men(ti),* Gimirra (w) *main,* Iraqw (S) *ameni* “woman”

The basis for these words is Niger-Congo *bí* “female breast”, III Likpe *l<u>e</u>-mí,* Bowili *l<u>e</u>-mé* “female breast”, ie prenasalised *b*. It follows that the Afro-Asiatic words are derived from Niger-Congo or Nilo-Saharan. The prenasal is best seen as a Central Sudanic reduced article or pronoun prefixed to the root.

WOMAN **Sumerian** *sal, salla*
PWN *KHÁL, (KHÁND)* “woman, wife”
Bantu *kádi,* “woman”
Kongo *nkento* “woman”, Ngala, Poto *muntaka* “woman”
“Bantu” *ka, kazi, kat.i* “female”
“Holoholo” **mwana múkasi,* “woman”
Mande (Delafosse) *muso,* B *moso,* M *musu* “woman”

[*ka* often means “small”; women were “small” by convention]. [The following *l, la* is an article].

***K = s** ***A = a** ***L = l** ***A = a**

WOOL **Sumerian** *siki* “wool”, “hair”, “fur”
PWS *<u>g</u>ù, <u>g</u>ùà* “grey hair”
PWN *GHWÍLI, (GHWYÍLI)* “hair”
Bantu *cuki* “hair”
Kongo *nsuki* “hair”, Kele *swe* “hair”
TogoR **ti-ya* “hair”
Mande *sisi* “grey hair”
Mande *sar.a-si, sag.a-si* “wool’
Mangbetu *ôsi* “to sew” (PWN *CÍN* “horn”)

****K = s** ***U = u** ***K = k** ***I = i**

WORD

Sumerian *inim* “word”
Sumerian *enim* “word” (*e-ne-èm*)

PWS *ni* “drink” (mouth)
PWS *nú* “say”
PWS *nu, (ni)* “mouth”, Atjulo *ni* “mouth”
PWS *ni* (+ nasal) “name”
PWS *ni, nu* “person”
PWN *NÍUNA, (NÚA)* “mouth”
Bantu *nua* “mouth”
Mangbetu *ene* “as”, *ine* “he” ?

[The original word has been prenasalised]. [Perhaps compare Latin *enim* “for”].

***N = n** ***I = i**

WRITE

Sumerian *sar, šar* “to write”
Sumerian *šar*$_8$ “to explain”

PWS *tá* “to tell, to relate”, Atjulo *ta* “to speak”, *ta-re* “to speak”, *o-ta-re* “word”
PWN *THÁLA, THÁLI* “stone” (used to scratch, write)
Kele *ta* “write” Bangi, Poto, Ngombe *sono* “write”
Mande *sèbè* “to write”, *sèbè-ri kè* “to write”

***T = s** ***A = a** ***R = r**

YOU

Sumerian *zu* “thee, thine, ye”

PWS *tí, tú* “we”
PWN *THÍ, (THÍA, THÍNA)* “father”

Sumerian *za* “thee, thou”

Sudan *tua* “father”, Ewe *tó* “father”, Ga *tše* “father”
Kongo *ese* “father”, Lolo, Soko *ise* “father”

See under THOU

***T = z** ***U = u** ***A = a**

CRETAN LINEAR A

About two-thirds of these Sumerian determinatives can be tentatively matched with items from Cretan Linear A, if one allows for known differences of orthography and possible sound changes. Sumerian CVC is assumed to be from CVCV. This raises the important possibility of establishing the meaning of Linear A words by comparing them with Sumerian.

Both Sumerian and Linear A show the prominent Niger-Congo vocalic prefixes: *a -, i-, u.* These can be explained in terms of original Niger-Congo CV words. The words *iti, udu, (usu)* are reasonably secure identifications. In terms of Template Theory (the (C)V hypothesis) these identifications have serious implications.

Sumerian is not the same as Linear A however. The Linear A tablets do not use "cases" to divide the field. Essential words are often more advanced in their phonetic development in Sumerian, although Linear A is dated some 1000 years later.

There is little distinction between verb roots and nouns. Thus *dug* means "speak", also "speech". Adjectives are rare (as in Niger-Congo).

The plural of inanimate nouns is said to be formed by reduplication : *kur* "land", *kur-kur* "lands". Hayes disputes this. But it is in line with the optional quasi-plurals in Malayo-Polynesian. Reduplication of adjectives marks "augmentation" : *ning-gal-gal* "large things". Compare Niger-Congo *–nene* "large", *botalitali* "very high" (tree).

Hayes (1997 : 16) gives the animate noun plurals as postposed *–ene* (written *–re-ne*). Compare the plural suffixes *–ri* and *–ni* used mainly in Mande. Maori has *tama-ri-ki* "children", *mata-ri-ki* "Pleiades" (*ri* is a moribund plural). Campbell ed. (1991) regards both of the formations as "collectives". Gelb adds the plural suffixes *–me* (also *me-eš*) and *–hia.* In Niger-Congo however *–ma* is used (inter alia) to make plurals and mass nouns. Suffix *–hia* must be from *ki-a* (a Nilo-Saharan pluraliser, Niger-Congo *ki* "small", of plurals, Niger-

Congo *gí* “full”, Sonin-ke, Malin-ke “Mande tribal names”). The *–a* also occurs as a specialised plural in some branches of Niger-Congo (probably from *–(m)a*)..

Gelb however in NEB (1989, 22 : 800) sets up Object elements + Verbal Root + Subject elements in the Sumerian verbal complex, ie OVS. (This appears to have been the earliest sequence in African languages. Compare Maori). But “In the preterite transitive active form, the order of Subject and Object elements is reversed”, ie SVO. Kwa (Niger-Congo) has SVO order as normal. Topicalisation (with fronting) probably lead to the introduction of SVO.

Sumerian can be treated as an ergative language. Ergative *–e* (compare Niger-Congo *–ke* “made, did”) is postposed to the agent. The situation is reminiscent of Maori, which preposes a marker to the postverbal agent. Campbell ed. (1991) says that the Sumerian verb has neutral voice. Again one is reminded of Mande (and of Maori – anomalous “passive”).

Some of the placenames in Sumeria are suggestive and can be etymologised as African (Niger-Congo etc). Thus Umma = Ihewe (Kwa) *u-ma* “town”; Mari appears to be from the same root *ma* “town, tribe”, with a suffix. Warka looks like Niger-Congo *wa(r)* “wash” + *ka* “hands”. Fara resembles Niger-Congo *bara* “big, broad, flat”. Ubaid suggests Niger-Congo *bà* “swamp”, with prefix *u-* and suffix *–d(i)* “tribe” (Compare Uba from Afro-Asiatic, but Uboi from Adamawa-Eastern, ie N-C). Adab may be from N-C *da* “earth” + *b(i)* “place”,

Larsa comes from Niger-Congo *lar(i)* “Old Ones” + *-sa* “place” and so on. KiLari is a dialect of KiKongo. Many names appear to have the Niger-Congo vocalic prefixes *–a, -i, -u, (-e, -o).*

Sumerian deities include Inanna (Moon goddess) = Niger-Congo (Yoruba) *i-ná* “fire” (with reduplication (frequent in Niger-Congo) + *-na* (dem. or “mother”), and Utu (Sun god) = Niger-Congo *tù* “to strike”, *tùà* “to roast” (Maori *utu* “revenge”). The Sumerian religious festival of Akiti (New Year) recalls Niger-Congo (Igbo) *e̲-kiti* “Middle, Centre” (*e̲-* > *a-*). These words also show vocalic prefixes.

In Niger-Congo the noun prefixes were mapped on to following parts of the sentence such as “adjectives”. Sumerian *a-lu* “adjective for small cattle” and *a-lum* “adjective for small sheep” appear to be in this category.

The numerals also look promising for a Niger-Congo identification. Thus *i* “five” is the same as Linear A = Niger-Congo *ni* “hand, five”, *hu* “ten” looks similar to Bantu *kumi* “ten”, “large number” (N-C *ku* “grow, large”). The *mi* of *kumi* is ultimately detachable. See Stapleton (1903 : 108) for two speakers splitting the numeral between them : “*mi-*“, with response “*-atu*”, that is “three” (Ngala) in counting brass rods. “Two” in Sumerian is *min,* “seven” is *i-min* (5 + 2). Niger-Congo *nì* (*nin*) means “the eyes”, that is “two” (with reduplication for the plural). The *mi-* is the counting prefix. Compare Eng. “Eeny meeny miny mo). “One” is *aš, deš.* The *d-* may be lost as in *i-aš* “six” (5 + 1).

It even has remote connections with New Zealand Maori (Sumerian *ur* “dog”, Maori *kuri* “dog”), which is also Niger-Congo (Campbell-Dunn 2007) *kuri* “belly”, “rat” etc (used of edible quadrupeds).

The procedure which we propose to apply is orthodox. First we will match basic vocabulary, as far as possible, from the 100 word list given by Hayes (1997 : 37 – 38), to establish our argument. Then we will look for comparative morphology across Sumerian and Niger-Congo. Finally we will set up sound correspondences between Sumerian and Niger-Congo. In this way we will demonstrate that Sumerian belongs to Niger-Congo and is not an isolate.

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Sumerian	**Linear A**	**Sumerian Meaning**	**PWS**	**Meaning**
anše	***ASE***	**Donkey**	***-kati***	**Donkey, Horse**
			Kuk *a-katši*	**Horse**

diĝir	***DIKI-***	**God (Man)**	**B *di***	**Masculine**
diš	***DIKI-***	**Masculine**	**(See previous)**	
dug	***DUKU-***	**Vase for Food**	***lum (dum)***	**Bite**
duk	***DUKU-***	**Buildings**	***tù***	**Build**
gada	***KA-***	**Woven Linen**	***ka***	**Hand**
			B *kándá*	**Cloth**
			ta, tan	**Woven Cloth**
gu₄	***KUDA***	**Bovids**	***ku(i)***	**Big (Male)**
			B *jeku*	**Bull**
iku	***IKU-***	**Surface Measures**	***ku(i)***	**Big**
im(i)	***IMI-***	**Winds & Tempests**	***pú***	**Wind**
			B *pépo*	**Wind**
			pí, pú	**To Throw**

[The *m* is a nasal grade of *p*; *u* = *i*]

iti	***ITI***	**Months**	**B *–ti***	**Small pl. prefix**
kaš	***KASU***	**Alcoholic Drinks**	***kà***	**Sorghum**
			kàn	**Bread**

[Beer was made from bread]

min	***MI* (half)**	**Two**	***bí***	**F. Breast**

[Breast = Two; the *m* is a nasal grade of *b*]

na₄	***NA-***	**Minerals**	***tà***	**Fire**

[*n* is a nasal grade of *t*; minerals were extracted by fire.]

ia₄	***IA* -**	**Minerals**	**I *i-tari***	**Fire**

za	***ZA***	**Minerals**	**Guro *tje***	**Fire**

[The *t* is affricated and voiced to *z*; three different phonetic developments.]

nisig	***NISI***	**Herbs**	***tí***	**Roofing Straw**
sar	***SARA***	**Herbs**	**B *sara***	**Grass**
sik(i)	***SIKI-***	**Wool, Hair**	**B. *siki***	**Hair**
še	***SE-***	**Cereals**	**T *k'e***	**Cooked**
sim	***SIMA, SIMI-***	**Perfumes**	**B *sin***	**Nose**
túg	***TUKI***	**Cloth, Clothes**	***tum***	**To Work**
			tú, tí,	**To Carry, Wear**
ú	***PUWI***	**Plants & Vegetables**	***pú***	**Bush, Plantation**
			T *a-fu-w*	**Plantation, Field**
udu	***UDU***	**Sheep**	***lu***	**Head (Cow, etc)**
uzu	***USU***	**Body Parts**	***kú***	**To Die**
			N *e-kú*	**Carcass**
zid	***SIDU, SI.I***	**Flour, Meal**	***gi***	**Guinea Corn**
			B *kita*	**To Make**